Test Certificate

CERTIFICATE No: TRA033581CC03

ISSUE: B

DATE: 13/02/2017

PURPOSE OF TEST:	Environmental Test
CLIENT ORDER No:	P37645
CLIENT:	FT Technologies (UK) Ltd, Church Lane, Teddington, Middlesex, GB. TW11 8PA.
EQUIPMENT UNDER TEST:	Wind Sensor For specimen details see table overleaf
TEST SPECIFICATIONS:	In accordance with Element quotation TRA-033581-01 dated 10th October 2016, also in accordance FT Technology Document No. A9450, Issue 1 BS EN 60068 (Multiple Sections) DEF STAN 00-35 Part 3, Issue 4 EN 60529:1992 With changes recorded in CAF 2655 dated 14/11/2016
TEST DATE:	14th to 25th November 2016
TEST LOCATION:	Element Materials Technology, Rothwell Road, Warwick, Warwickshire, CV34 5JX

WRITTEN BY: Daniel Homan

Daniel Homan
Environmental Test
Engineer

APPROVED BY: R. J. Sutton

Rob Sutton
Verification
Controller

Element Materials Technology Warwick Ltd.
Registered in England and Wales. Registered Office: 5 Fleet Place, London, EC4M 7RD
Company Reg No. 02536659

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EQUIPMENT UNDER TEST:

Part Name:	Part No:	Serial No:	Element Stores No:	Test:	Date Received:
Wind Sensor	FT742-D-FF	9000-037	TRA-033581-S1	Alt, Solar, Mist	14/11/2016
	FT742-D-FF	9000-039	TRA-033581-S3	Rain, Dust, Sand	
	FT742-A-FF	9000-025	TRA-033581-S4	Alt, Solar, Mist	
	FT742-A-FF	9000-030	TRA-033581-S6	Rain	
	FT722-D-FF	9000-050	TRA-033581-S7	Alt, Solar, Mist	
	FT722-D-FF	9000-041	TRA-033581-S9	Rain	
	FT742-D-PM	9000-045	TRA-033581-S10	Alt, Solar, Mist	
	FT742-D-PM	9000-049	TRA-033581-S12	Rain	
	FT742-A-PM	9000-031	TRA-033581-S13	Alt, Solar, Mist	
	FT742-A-PM	9000-035	TRA-033581-S15	Rain	
	FT742-D-DM	9000-356	TRA-033581-S16	Alt, Solar, Mist	
	FT742-D-DM	9000-361	TRA-033581-S18	Rain	
	FT742-A-DM	9000-347	TRA-033581-S19	Alt, Solar, Mist	
	FT742-A-DM	9000-349	TRA-033581-S21	Rain	
	FT742-D-SM	9001-000	TRA-033581-S22	Alt, Solar, Mist	
	FT742-D-SM	9001-002	TRA-033581-S24	Rain, Dust, Sand	

TESTS CARRIED OUT:

Altitude Test

Tested in accordance with FT Technologies Document No. A9450, Issue 1, Section 9.3 which refers to BS EN 60068-2-13:1999, Part 2, Test M

Altitude: 4000m / 616mbar ± 0.1 kPa Duration: 4 hours
Ramp Rate: ≤10kPa/minute
Test performed in accordance with the specification.

Rain Test

Tested in accordance with FT Technologies Document No. A9450, Issue 1, Section 9.4 which refers to DEF-STAN 00-35, Issue 4, Part 3, Test CL27

Duration: 1 hour
Severity: 200mm ± 50mm per hour
Nozzle Angle: 45º Temperature Differential: 10±5ºC
Test performed in accordance with the specification.

Wind Blown Dust Test

Testing in accordance with FT Technologies Document No. A9450, Issue 1, Section 9.1 which refers to DEF STAN-00-35 Part 3, Issue 4, Chapter 3-25, Test CL25

Dust Composition: DEF-STAN 00-35 Pt3 Iss4 Chapter 3-25 5.2.1C Silica Flour
Dust Concentration: 1.1± 0.3 g/m^3
Chamber Temperature: 25ºC ± 5ºC Relative Humidity: ≤30%RH
Air Velocity: 29 m/s Duration: 1 Face, 3 Hours
Test performed in accordance with the specification.

Wind Blown Sand Test

Tested in accordance with FT Technologies Document No.A9450, Issue 1, Section 9.1 which refers to DEF STAN-00-35 Part 3, Issue 4, Chapter 3-25, Test CL25

Sand Composition: DEF-STAN 00-35 as per Pt3 Iss4 Chapter 3-25 5.2.2
Sand Concentration: 1.1± 0.3 g/m^3

Chamber Temperature: 25ºC ± 5ºC Relative Humidity: ≤30%RH
Air Velocity: 29 m/s Duration: 1 Face, 3 Hours
Test performed in accordance with the specification.

Solar Heating Test

Tested in accordance with FT Technologies Document, No.A9450, Issue 1, Section 9.2 which refers to BS EN 60068-2-5:2011 Test Sa, Procedure C
Upper Temperature: 55ºC Lower Temperature 25ºC
Solar Radiation: 1120W/m^2 Duration: 1 x 24hour cycle
Test performed in accordance with the specification.

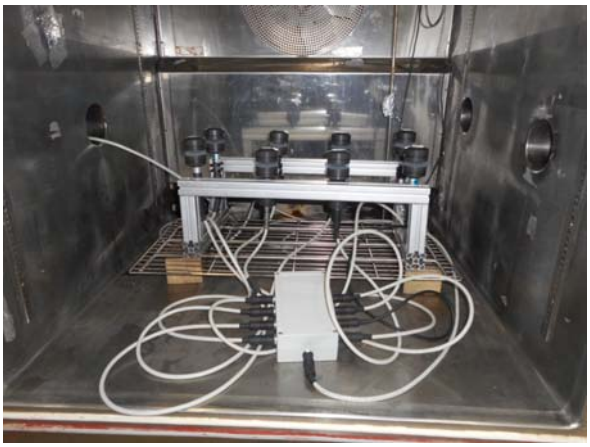
Mist, Fog & Low Cloud Test

Tested in accordance with FT Technologies Document No. A9450, Issue 1, Section 9.5 which refers to DEF-STAN-00-35 Part 3, Issue 4, Test CL26
Duration: 1 hour Deposition Rate: 1-2ml/hour
Test performed in accordance with the specification.

TEST RESULTS:

Upon completion of each test the specimens were visually inspected by Element personnel. The specimens completed the testing in accordance with the specification with no conspicuous signs of external damage or degradation.

The specimens were connected to external monitoring equipment for each test and were reported as fully functional throughout by the representative of FT Technologies.



Altitude Test

Rain Test

Dust and Sand Test

Solar Test

Mist, Fog and Low Cloud Test