

EU-Type Examination Certificate



SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE NUMBER ITS17ATEX202037X/1

16. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report Ref: 103054141DAL-002 Dated: 20/11/2017

17. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
*SMARTONE SP - POWER (WITH POTTING)	80706 Sheet 1 of 5	F	2018-09-18
*SMARTONE SP - CONTROL	80706 Sheet 2 of 5	F	2018-09-18
*SMARTONE SP - RADIO	80706 Sheet 3 of 5	F	2018-09-18
*SMARTONE SP - Connector	80706 Sheet 4 of 5	F	2018-09-18
*SMARTONE SP - Revisions	80706 Sheet 5 of 5	F	2018-09-18
*BOM - 80706RevF.PrjPcb	80763	G	2018-09-18
*PCB & LAYER STACKUP DETAILS (Total sheets = 4)	80706	F	2018-09-27
*SOLAR PANEL, GLOBALSTAR SMARTONE SP (Total sheets = 1)	79091	C	09/27/2018
*TOP HOUSING, IRIS (Total sheets = 4)	80854	J	10/01/2018
*BOTTOM HOUSING, IRIS, INSERTS (Total sheets = 4)	80855	K	10/01/2018
*BRACKET, METAL, IRIS-RUGGED-COVER-SHORT (Total sheets = 1)	81210	C	9/27/2018
*ASSY DRAWING, SMARTONE SOLAR (Total sheets = 7)	80952	G	10/01/2018
*SMARTONE SOLAR MARKING CONTENT (Total sheets = 1)	83938	H	9/26/2018
*SmartOne Solar User Manual	84128	1.0.0	--

*Note: An * is included before the title of documents that are new or revised.*

18. Details of Certificate Changes Issue 1

Drawing description	Drawing number	Current Rev. Level	New Rev. Level	Changes
PCBA package	80706	D	G	Change log on last page of schematic contains all the changes and these are also included in the

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				bullet list below.
Top level assy drawing	80952	C	G	Added magnet retaining screw, clarified notes, change potting and curing angles to ranges. (From F to G) – Added a view to show an optional adhesive step for magnet.
Top level BOM	80952	A	B	Added alternate potting material, added magnet holding screw
Solar panel	79091	B	C	Added holes to PCB
Top housing	80854	F	J	Modified tolerances, added protection film to window, Added alternate (unspecified) color
Lower housing	80855	E	K	Modified tolerances, added embossed text, Added alternate (unspecified) color. Modified potting inlet geometry (from Rev. J to K)
Connector cap	80859	B	C	Added alternate (unspecified) color
Magnet holder	80860	C	E	Added undercut to hold magnet in
Header gasket	80856	C	D	Relaxed tolerance
Antenna foam	81165	B	D	Modified tolerances
Battery vent	80864	D	E	Changed material to be ROHS compliant
Mounting pad	81215	A	C	Changed material
Protection bkt	81210	A	C	Updated tolerances and minor feature dimensions
User manual	9100-0425-01	1.0.2	TBD	Removed from schedule drawing (changed to related document related to 84128)
Marking layout	83938	B	H	Removed bottom markings (molded in plastics), adjusted size of barcode, adjusted machine setup for better contrast From F to H: Updated the marking labels to show the manufacturer name and address.

Two new schedule drawings have been added since the original update:

Drawing description	Drawing number	Reason for addition
Qsil 214 potting	N/A	To be tested as an alternate to the Wacker



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material		potting material
Condensed user manual	84128	This will be Rev. 1.0 and it replaces user manual as a schedule drawing

For the PCBA schematic (drawing number 80706) following updates have been made:

From Rev. Level D to E:

- Updated solder mask under U8 to improve manufacturing yield
- Updated solder mask of U14 and U5, adjust U14 pins 6 and 7
- Updated footprint for U2 for improved manufacturability, solder mask sliver too small
- Fixed all solder mask slivers less than 4mil
- Removed FID text and tooling pin hole designator (not required)
- Updated transmission line from STX3 to antenna, used co-planar waveguide calculation, increase ground plane connection, added guard ring vias.
- Changed label of 2V5 net to 3V0 to reflect actual voltage used now
- Do not populate resistors R10 and R11, causing communication conflicts
- Fixed description for R18, indicated 1% part but was actually 5%
- Updated the board number to Rev. E, Assembly to Rev. E
- Added thermal relief to J4 and J1 connectors for manufacturability improvements
- Updated top layer polygon to not remove islands that are connected to nets below a certain size
- Adjust SCK trace on internal layer to not run parallel to other traces
- Replaced C26 and C28 with same capacitance and voltage but 0603 instead of 0402 – Availability

From Rev. Level E to F:

- Update board silkscreen to Rev. F
- Update STX3 matching components C45 to 1.1pF and L16 to 3.6nH, C46 remains DNP
- Update D24, D19, D1 footprints as per manufacturing review
- Updated the templates to reflect Hazardous Version
- Updated X2 and X4 footprints slightly as per manufacturing review

From Rev. Level F to G:

- Update D38 to Zener to protect input from sustained high input voltage (THIS IS AN ASSEMBLY UPDATE ONLY – BARE PCB IS UNCHANGED AT REV. F)