0 – Software Requirements

# Changelog

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| Date | Author(s) | Confirmation Signature(s) | Description |
| 04/05/2019 | Richard Bamford, Gary Bamford |  | Defined initial requirements set. |
| 05/05/2019 | Richard Bamford,  Julian Fernandez |  | * Changed REQ16 from SHOULD to MUST. * Changed REQ19 to Control Command instead of Transmission. * REQ22 defined. |
| 05/05/2019 | Richard Bamford |  | Changelog added |
| 17/05/2019 | Richard Bamford, Gary Bamford |  | * Req 8 change to will not. * REQ22 referenced |
| 29/05/2019 | Richard Bamford |  | * Changed “a Defined protocol” to “the defined protocol” |
| 03/06/2019 | Richard Bamford, Julian Fernandez |  | * REQ23 added |
| 10/06/2019 | Richard Bamford, Julian Fernandez |  |  |

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| **ID** | **Requirement** | **F/NF** | **MoSCoW** | **Implemented in “1 – Software Functional Specification.docx” of ID** |
| REQ1 | Satellite must remain in benign state during launch | NF | MUST |  |
| REQ2 | Satellite must detect exit from launch tube | NF | MUST |  |
| REQ3 | Battery enable must occur following jettison | NF | MUST |  |
| REQ4 | Satellite configuration must occur following jettison | F | MUST | SYSFS1 |
| REQ5 | Satellite initialisation must occur following jettison | F | MUST | SYSFS1, SYSFS2 |
| REQ6 | Communication operational checks. | F | MUST | SYSFS4 |
| REQ7 | System operational checks and adjustments. | F | MUST | SYSFS4, SYSFS6, SYSFS7 |
| REQ8 | Confirmation of transmit and receive signals must be made | F | WILL NOT | NOT IMPLEMENTED – There is no confirmation message defined in the protocol and it is not applicable due to rX timing. |
| REQ9 | Satellite must be able to transmit using the defined protocol. | F | MUST | SYSFS8, SYSFS9, SYSFS10 COMMFS1, COMMFS2, COMMFS3, COMMFS7, COMMFS9, COMMFS12, COMMFS13, COMMFS15 |
| REQ10 | Satellite must be able to receive using the protocol. | F | MUST | SYSFS8, COMMFS2, COMMFS3, COMMFS4, COMMFS5, COMMFS6, COMMFS7, COMMFS10, COMMFS11, COMMFS15, COMMSFS24 |
| REQ12 | Frequency band change between ISM and Amateur bands during operation could be implemented | F | COULD | COMMFS16 |
| REQ13 | Deployment sequence must be integration, jettison and debugging compatible. | F | MUST | SYSFS1, SYSFS2 |
| REQ15 | Satellite must transmit a RTTY callsign message. | F | MUST | SYSFS10 |
| REQ16 | Power usage should be optimised. | F | MUST | SYSFS6, SYSFS11 |
| REQ17 | Fault tolerant features. | F | SHOULD | SYSFS12 |
| REQ18 | Satellite must keep track of number of restarts. | F | MUST | SYSFS1 |
| REQ19 | Each control command must be password protected. | F | MUST | COMMFS6 |
| REQ20 | Deployment sequence must be manually started, overriding memory checks. | F | MUST | COMMFS17 |
| REQ21 | Transmissions must be able to be disabled and enabled. | F | MUST | COMMFS14 |
| REQ22 | Battery charging must be disabled under 0 degrees C | F | MUST | SYSFS7 |
| REQ23 | Low power mode when battery is under 3.3v. | F | MUST | SYSFS12 |
| REQ24 | Low power mode, MPPT temperature switching and MPPT disable/enable saved to EEPROM and loaded on restarts. | F | MUST | SYSF13 |