

Declaration of Design and Performance

DDP No.: 120-00001

Issue No.: 2.3

Approving authority: n/a

DDP Change Control Ref: JIRA No. HWD-502

Note: Before specifying equipment, check with Flightcell International that this declaration is the currently valid version

MANUFACTURER

Flightcell International Ltd

Address: 98 Vickerman St, Nelson, New Zealand 7010

DECLARATION OF DESIGN AND PERFORMANCE

System Name: Flightcell DZMx

Part No.: DZP_04-XXX-XXXX (-XXX-XXXX represents the dash number which defines the specific configuration of the unit, the detailed breakdown of the dash number is contained in 113-00001 Rev 6.0 DZP_04 Flightcell DZMx Dash Number Definition Table)

Description: A compact and lightweight all-in-one Iridium and cellular solution for global voice, data, and GPS tracking.

The design reduces the size of the product while integrating internal Iridium and/or cellular transceivers.

Data interfaces include Ethernet, USB, Wi-Fi, Bluetooth and ARINC 429, Software Defined Receiver, Cellular and Satellite Modems, General-Purpose Inputs and General-Purpose Outputs. The product is designed for standard 5.25" DZUS rack mounting or with a 6.25" GA faceplate.

Rev No.: 8.0

Weight & Overall Dimensions: Representative configurations range from 685g to 850g maximum. For specific information refer to 100-00004 Rev 8.0 DZP_04 Master Data List.

System Wiring Diagrams	
Diagram No.	Description
114-00003	DZMx Civilian Interconnect Drawings
114-00004	DZMx Military Interconnect Drawings

Overall Dimensions		
<i>for more specific data, refer to the assembly diagrams and definition specification below</i>		
Part Description	DZUS mounted	Panel mounted
Faceplate width	146.0mm	158.0mm
Extrusion width	125.7mm	125.7mm
Faceplate height	57.2mm	60.0mm
Extrusion height	54.0mm	54.0mm
Depth (from front face to rear face)	110.4mm	110.6mm

Manufacturer’s Specification Design: 117-00013 DZMx Design Specification

Performance:

The Flightcell DZMx meets all the specifications and requirements as outlined in this document. The main performance specifications are listed below.

Item	Detail	
Display	160 x 80 Mono Graphics LCD	
Backlighting	LED NVIS-B (standard) LED NVIS-A (option)	
Keypad	16 keys (4x4 matrix)	
Interface	10/100 Ethernet, USB 2.0, RS-485, RS-232 Analog audio (2), GPI (5), GPO (2), GPIO (7), Wi-Fi, Bluetooth	
DC Power Source	+12V - +32VDC (28V nominal) Max current: ~1A @ 28VDC	
Connectors	GA	Main connector: DB-25 Plug, mating connector: M24308/2-3F Secondary connector: DB-25 Socket, mating connector: M24308/4-3F
	Mil	D38999/24WE-35PN, mating connector: D38999/26WE-35SN

The DZMx variants with Cellular modems fitted support the following bands:

Part number	Description	Region	3G (UMTS) bands	4G (LTE) bands
DZP_04-7xx-BEx / DZP_04-8xx-BEx / DZP_04-9xx-Ex / DZP_04-Cxx-Ex	Flightcell DZMx Variants with Europe Cell	Europe/Middle East/Asia	1, 8	1, 3, 7, 8, 20,28
DZP_04-7xx-BPx / DZP_04-8xx-BPx / DZP_04-9xx-Px / DZP_04-Cxx-Px	Flightcell DZMx Variants with Asia/Pacific Cell	Pacific/Australia/ New Zealand/South America	1, 5, 8	1, 3, 5, 7, 8, 28
DZP_04-7xx-BFx/ DZP_04-8xx-BFx / DZP_04-9xx-Fx / DZP_04-Cxx-Fx	Flightcell DZMx Variants with North America Cell	North America (including Band 14)	3G networks retired	2, 4, 5, 12, 13, 14, 17, 66
DZP_04-800-BJW	Flightcell DZMx Variants with Japan Cell	Japan	3G networks retired	1, 3, 5, 7, 8, 18, 19, 21

Wi-Fi / Bluetooth Transceiver transmit power (if installed)		
Modem	Description	RF Performance
Wi-Fi	Tx power (dBm)	16.0
	Antenna gain (dBi)	2.0
	Total power (dBm)	18.0
	Total power (mW)	63.1
Bluetooth	Tx power (dBm)	10.0
	Antenna gain (dBi)	2.0
	Total power (dBm)	12.0
	Total power (mW)	15.9

Cellular Transceiver Transmit Power						
RAT	Modulation / Band Class	Band	Transmit Power	WP76XX	RC7630	Notes
LTE (4G)	Power Class 3	All Bands	+23 dBm \pm 2 dB	✓	✓	Per 3GPP TS 36.521-1
UMTS (3G)	Class 3	N/A	+24 dBm +1/-3 dB	✓	N/A	Per 3GPP TS 34.121-1
GSM/GPRS (2G)	GMSK Class 4	900 MHz	+33 dBm \pm 2.5 dB	✓	N/A	Per 3GPP TS 51.010-1
GSM/GPRS (2G)	GMSK Class 1	1800 MHz	+30 dBm \pm 2.5 dB	✓	N/A	Per 3GPP TS 51.010-1
EDGE (2G)	8-PSK Class E2	900 MHz	+27 dBm \pm 3 dB	✓	N/A	Per 3GPP TS 51.010-1
EDGE (2G)	8-PSK Class E2	1800 MHz	+26 dBm +3/-4 dB	✓	N/A	Per 3GPP TS 51.010-1

Satellite Transceiver transmit power (if installed)	
Iridium 9523N – L Band 1621.35 to 1626.5 MHz	TX Power
Average power during a transmit slot (max)	7W
Average Power during a frame (typical)	0.6W
Iridium 9603N – L Band 1621.35 to 1626.5 MHz	TX Power
Average power during a transmit slot (max)	1.6W

GPS	
Frequency Range (MHz)	1575.42 MHz \pm 10 MHz
Active Antenna Supply	5V DC, up to 100mA
Sensitivity (dBm)	-166 dBm
Time to First Fix (Seconds)	29 (cold start)

Software Defined Receiver	
	RX Power
RX Power	-5dBm +/-1dB
RX Power (RX amplifier disabled)	+10dBm +/-1dB
Operating frequency	1 MHz to 2 GHz

Test Report References: TR-075431-01, 43053-0125407A, TR-PR030054-14D, TR-PR021690-13D, 107019-5, M2312032-1, 111437-10, 25-3382_003-250333_Cert, HSVCR91536

Fault analysis reports: n/a

Installation and Operation References:

Manual No.	Description
117-00008	DZMx Installation Manual
117-00009	DZMx / DZMx Plus Operator Manual

Declarations:

The limits of declared performance and those implied by the declarations below are not intended to be absolute, but are intended to indicate performance which has been shown by tests.

Cooling Requirements

The unit is passively cooled. No special cooling required.

Ingress of fluids, sand and dust

The unit is designed to be protected against fluids, sand and dust to a rating of IP54, however no external testing has been completed.

A rating of IP54 means that the unit is protected against ingress of dust in sufficient quantities to interfere with satisfactory operation of the unit and against harmful ingress of water when subjected to water splashing against the enclosure from any direction).

Storage

The unit should be stored at a temperature of not less than -55°C and not more than +85°C.

Operating temperature

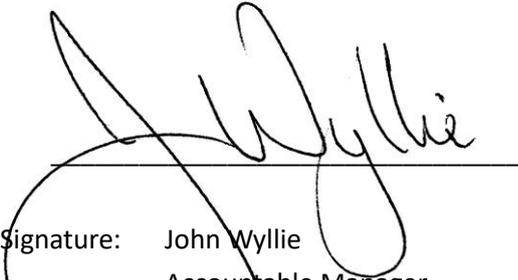
The ambient operating temperature range for the unit is -20°C to +55°C.

Storage Life

The shelf storage life is not less than 5 years under controlled storage conditions.

CERTIFICATION

The declaration in this document is made under the authority of Flightcell International Ltd.
Flightcell International Ltd cannot accept responsibility for equipment used outside the limiting conditions stated above without their agreement.

Signed: 
Authorized Signature: John Wyllie
Position: Accountable Manager
Effective Date: 13 March 2026

REMARKS

Nameplate Marking: DO-160G Env. Cat. [(A1)(B1)(F1)]XAB[UG]HXXXXXZZAZ[ACE][SS]MXXXXXXXXAX

CONDITIONS	DO-160G Section#	Description of Tests
Temperature & Altitude	4.0	Equipment tested to categories A1, B1, F1. No Forced cooling required. Equipment identified as category X, no test performed.
Low Temperature	4.5.1 & 4.5.2	
High Temperature	4.5.3 & 4.5.4	
In-Flight Loss of Cooling	4.5.5	
Altitude	4.6.1	
Decompression	4.6.2	
Overpressure	4.6.3	
Temperature Variation	5.0	Equipment tested to category B.
Humidity	6.0	Equipment tested to category A.

Operational Shocks	7.2	Equipment tested to category A, aircraft type 5, test type 5.
Crash Safety	7.3	Equipment tested to category B, aircraft type 5, test type 5.
Vibration	8.0	Equipment tested to category U, Aircraft zone 2, Test curve G.
Explosive Atmosphere	9.0	Equipment tested to category H.
Waterproofness	10.0	Equipment identified as category X, no test performed.
Fluids Susceptibility	11.0	Equipment identified as category X, no test performed.
Sand and Dust	12.0	Equipment identified as category X, no test performed.
Fungus	13.0	Equipment identified as category X, no test performed.
Salt Fog	14.0	Equipment identified as category X, no test performed.
Magnetic Effect	15.0	Equipment tested to category Z.
Power Input	16.0	Equipment tested to category B/Z.
Voltage Spike	17.0	Equipment tested to category A.
Audio Frequency Susceptibility	18.0	Equipment tested to category Z.
Induced Signal Susceptibility	19.0	Equipment tested to category ACE.
Radio Frequency Susceptibility	20.0	Equipment tested to category S.
Radio Frequency Emissions	21.0	Equipment tested to category M.
Lightning Induced Transient Effects	22.0	Equipment identified as category X, no test performed.
Lightning Direct Effects	23.0	Equipment identified as category X, no test performed.
Icing	24.0	Equipment identified as category X, no test performed.
Electrostatic Discharge	25.0	Equipment tested to category A.
Fire, Flammability	26.0	Equipment identified as category X, no test performed.
Other Tests		

Refer to 109-00001 for information on testing.

Although not tested or certified to any flammability standards Flightcell International Ltd is highly confident that due to the materials used in the design, the DZMx would meet the requirements of DO-160G, section 26 (Fire, Flammability), Category C – Flammability. Refer to 118-000024

Except as expressly provided below, no part of this document may be reproduced, copied, transmitted, disseminated, downloaded, or stored in any storage medium, for any purpose other than that which Flightcell International has provided this document for. Any electronic or printed copy of this document or any revision must contain the complete text of this copyright notice. Any unauthorised commercial distribution of this document or any revision hereto is strictly prohibited. Information in this document is subject to change. Document users are responsible for ensuring printed copies are valid prior to use.

© Copyright 2026 Flightcell International Ltd – All Rights Reserved