EU Type Examination Certificate CML 15ATEX3203X Issue 9

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **470-Z1 Module**

3 Manufacturer **HMI Elements Limited**

4 Address **Malton**
North Yorkshire
YO17 6BT
UK

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 CML B.V., Chamber of Commerce No 6738671, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN 60079-0:2018	EN 60079-11:2012	EN 60079-18:2015/A1:2017
EN 60079-28:2015	EN 60079-31:2014	EN 60079-7:2015/A1:2018

Ref EN 60079-1:2007

10 The equipment shall be marked with the following:

Ex II 2 G D	Ex II 2 (2) G D
Ex eb ib mb IIC T4 Gb Ex tb IIIC T135ºC Db Ta= Up to -40ºC to +60ºC	See description for alternative marking and ambient options

11 Description

The 470-Z1 is a mains supplied, transportable hazardous area computer with a touchscreen and keypad control interface, as well as optional keyboard/mouse, USB, Wi-Fi, Ethernet or Optical interface connections. An internal USB connection point is provided for software updates in safe area use.

The 470-Z1 consists of an aluminium enclosure, which has the supply / interface connections either via the bottom side or enclosure back panel.

The 470-Z1 consists of three main parts, an increased safety terminal/connection section, and an encapsulated section in the base and an encapsulation hinged lid section.

The increased safety section interfaces the input and output connections (when fitted) via separately certified terminals and intrinsically safe connections.

The encapsulated section in the base contains the power supply, the computer processor, hard drive, memory and interface circuits, as well as the intrinsically safe barrier and limiting circuits for the optional Wi-Fi, USB, Ethernet LAN and optical peripheral communications.

The lid section contains the low power projected capacitance touchscreen, LCD panel adaptor, touchscreen controller, back light LEDs and Bluetooth module. The lid section also includes two keypads, indicating LEDs and the keypad encoder board.

External connections

- The mains input supply will be via either a separately approved in-line connector or cable gland (various options).
- The external keyboard/mouse interface (when fitted) is provided by a PS/2 connector and protected by an Intrinsically Safe Zener barrier with entity parameters shown in Table 1 below.
- One Ethernet port (when fitted) is provided by either:
  - Non-Intrinsically safe 10/100/1000 Mbps - a separately certified connector or cable gland.
  - 10/100 Mbps – an Ex d socket, entity parameters shown in Table 4
  - Ex ia (IS993 galvanically isolated) Copper 10/100 Mbps – Ex d socket or gland, entity parameters shown in Table 3
- One Fibre-optic (when fitted) is provided by either:
  - Energy limited (op is) optical – an optical connector, entity parameters shown in Table 5
- Optionally, one Wi-Fi modules will be provided via a N-type socket:
  - Ex ia (IS752 or iSOLATE501 barrier), WiFi 2.4GHz Zcomax

- Ex ia (IS752 or iSOLATE501 barrier), WiFi 2.4GHz Zigbee
- Ex ia (IS752 or iSOLATE501 barrier), WiFi 2.4GHz + 5GHz Sparklan

- Optionally, one of the following external USB is provided:
  - USB2.0 – a separately certified , ROTA DR4/DE2 Ex d USB memory stick/connector (Gas atmospheres only), CEAG Exlink, or Hawke ControlEx/InstrumEx connectors
  - USB2.0 – Fischer 103 core series connection (Safe area use only).
- Optional, RS232 port, via a separately certified gland or connector
- Always present is a Bluetooth 2.0 + EDR. Transmitter is located under the lid encapsulation behind left hand keypad.

Some optional connectors are via separately certified flameproof equipment, where these are utilised, the equipment has flameproof parts which does not form part of the equipment marking.

The equipment has the following safety description:

Um = 100-240V ac, 50-60 Hz, 2A

Table 1		
PS/2 Interface (Where fitted)		
Uo	=	5.355 Vdc
Io	=	0.155 A
Po	=	0.572 W
Ci	=	17.05 µF
Co	=	47.95 µF
Li	=	0
Lo	=	0.4 mH
Note:	**NOT galvanically isolated**	

Table 2		
Wi-Fi- Interface (IS752 RF barrier)		
Uo	=	6.51 Vdc
Io	=	1.031 A (at 2.4Ghz)
Po	=	1.69 W
Co	=	<22 µF
Lo	=	<33 µH
Ci	=	10.5pF
Li	=	0
Note:	**NOT galvanically isolated**	

Table 3						
IS993 Ethernet Isolator (where fitted) – only for IIB or IIA applications						
10/100 Ethernet TX (output)			**10/100 Ethernet RX (input)**			
Uo	=	4.935 Vdc		Ui	=	5.88 Vdc
Io	=	1.176 A		Ii	=	1.666 A
Po	=	1.451 W		Pi	=	Any value
Co	=	999 µF		Ci	=	908 nF
Lo	=	12.8 µH or		Li	=	0
Lo / Ro	=	31 µH / Ω (Note 1)				

Note 1: The quoted value of Lo/Ro can only be used if the connected Ethernet device has a terminal inductance (Li) of zero. The quoted value of Lo/Ro takes into account the total current from the IS993 Ethernet isolator, plus the connected Ethernet device and is calculated on the basis of a IIB system. If the connected Ethernet device quotes a lower value of Lo/Ro, this lower value should be used in the selection of a suitable cable.

Note 2: The Ethernet port connected to the IS993 Ethernet Isolator shall be resistively-limited, with a source resistance $R_s \geq U_o/I_o$

Table 4 – Only suitable for -20ºC ambient		
Solexy Ethernet Barrier (where fitted)		
10/100 Ethernet TX (output)		
Um	=	250 V
Uo	=	3.4 V

Table 5	
Optical (Output) **TOSA-E168-9010-ELC**	
Po	30 µW
62.5/125µm MM Fibre	
Optical (Output) **Cotsworks Module**	

Io	=	701 mA
Co	=	100 µF
Lo	=	85 µH

Po	< 35mW
Wave length	850 nm

Marking

Design Option		
Gas Marking		
1	**With 'IS' and Optical interfaces**	Ex eb ib mb [ib] [op is] IIC T4 Gb
2	**Without 'IS' and Optical interfaces**	Ex eb ib mb IIC T4 Gb
3	**With Optical interfaces only**	Ex eb ib mb [op is] IIC T4 Gb
4	**With Solexy Ethernet Coupler (op is not available)**	Ex eb ib mb [ib] IIC T4 Gb
5	**With Solexy Ethernet Coupler & Ex I PS2**	Ex eb ib mb [ib] IIC T4 Gb
Dust Marking		
1	**With Rota DE2/DR4 Connector(s)**	N/A
2	**With 'IS' and Optical interfaces**	Ex tb [ib] [op is] IIIC T135ºC Db
3	**Without 'IS' and Optical interfaces**	Ex tb IIIC T135ºC Db
4	**With Optical interfaces only**	Ex tb [op is] IIIC T135ºC Db
5	**With Solexy Ethernet Coupler (op is not available)**	Ex tb [ib] IIIC T135ºC Db

Design Option		
6	**With Solexy Ethernet Coupler & Ex I PS2**	Ex tb [ib] IIIC T135ºC Db
Notes:	(1) Options fitted with Rota DE2 / DR4 Couplers are not to be marked 'Dust Protected – 'Ex tb' (2) When either the Wi-Fi (IS752) and/or the IS993 (iSiS-Ex Ethernet Barrier) are fitted, the Ex codes will be those shown in line 5 of the gas table and line 6 of the dust table above. (3) When the IS993 is fitted, the Gas group shall be downgraded to IIB. (4) Some optional connectors are separately certified flameproof equipment, where these are utilised, the equipment has flameproof parts, this is not marked on the equipment	
Ambient	Ta = -40°C to +60°C Ta = -20°C to +60°C (with Solexy Ethernet Couplers) Ta = -40°C to +55°C (with Rota DE2 Couplers) Ta = -40°C to +55°C (with Main Power cable plug arrangement)	

Variation 1

This variation introduces the following modifications:

i. To allow two additional alternative PSU arrangements.
ii. To update certificate to reference the 2014/34/EU Directive.

Variation 2

This variation introduces the following modifications:

i. To allow alternative thermal fuses to be utilised.
ii. To update certificate to reference the 2014/34/EU Directive.

Variation 3

This variation introduces the following modifications:

i. Change of the manufacturer's name to HMI Elements Limited.
ii. Removal of reference to the previous company name from the equipment name/model number.
iii. Correction of a typographical error on the certificate. Certificate showed 'EC Type Examination Certificate'; this was replaced with 'EU Type Examination Certificate'. Compliance with the 2014/34/EU Directive was verified under Variation 1.

Variation 4

This variation introduces the following modifications:

i. To allow an alternative power cable arrangement to be included
ii. To allow an alternative MIO CPU module to be used
iii. To allow an alternative Optical radiation media converter arrangement and external fibre connectors to be used.
iv. The description and marking has been updated in accordance with the modifications above.

Variation 5

This variation introduces the following modifications:

i. Alternative separate internal encapsulated optical transmitter
ii. Correction of drawing typographic errors

Variation 6

This variation introduces the following modifications:

i. To allow an alternative touchscreen controller to be used.
ii. To correct drawing revision errors, as well as include a drawing reference omitted from previous variation.
iii. The EN 60079-7 and EN 60079-18 standards are updated to current harmonised editions. Subsequently, the certification was transferred from CML U.K to CML B.V.

Variation 7

This variation introduces the following modification:

i. Update EN 60079-0:2012+A11:2013 to EN 60079-0:2018

Variation 8

This variation introduces the following modifications:

i. The introduction of an alternative display
ii. Changes to the PCB layout of the SA606 and SA731 interfaces
iii. The introduction of a new WiFi option
iv. The introduction of an alternative internal programming connector
v. The introduction of an alternative RF isolator
vi. Changes to the touchscreen controller mounting arrangement
vii. Update to equipment marking

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	26/02/2016	R405B/00	Issue of prime certificate
1	27/05/2016	R1138A/00	To introduce variation 1

2	19/08/2016	N/A	Re-issued to correct a typographic error
3	17/02/2017	R1946A/00	To introduce variation 2
4	16/01/2018	R11519A/00	To introduce variation 3
5	22/02/2018	R11525A/00	To introduce variation 4
6	28/06/2018	R11809A/00	To introduce variation 5
7	08/03/2019	R12311A/00 and R12311B/00	To introduce variation 6. To transfer to CML B.V.
8	10/11/2020	R13634B/00	To introduce variation 7
9		R12439A/00	To introduce variation 8

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate. A copy of the certification and instructions shall be provided for the separately certified items fitted.

ii. The equipment shall be subjected to an electric strength test using a test voltage of 1500Vac applied between the input circuits (90V peak or above) and frame, for a period of 60 secs.

iii. Each section of 'm' encapsulated equipment shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion or softening.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

i. The Apparatus intrinsically safe output circuits are not capable of withstanding the 500V insulation test required by Clause 6.3.12 of IEC 60079-11. This must be taken into account when installing the equipment.

ii. When supplied, the Non-Intrinsically Safe Ethernet or RS232 cable shall be protected from damage or breakage in accordance with IEC 60079-14.

iii. The internal USB connection shall only be used within the safe (non-hazardous) area.

iv. The external USB connection (when supplied) shall only be used within the hazardous area if fitted Ex d USB interface or Ex d connector, when the non Ex d option is provided, this shall be used in the safe area only.

Certificate Annex

Certificate Number **CML 15ATEX3203X**

Equipment **470-Z1 Module**

Manufacturer **HMI Elements Ltd**

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
D100004	1 of 1	B1	26 Feb 2016	Fischer DBEE '103 Z056-130' connector – Internal USB
D100028	1 of 1	C1	26 Feb 2016	Interface Components N-Type Bulkhead Connector
D100194	1 to 9	A0	26 Feb 2016	General Arrangement Drawing
D100195	1 to 3	A0	26 Feb 2016	GA Case Front
D100198	1 to 2	A0	26 Feb 2016	Protection Concepts
D100199	1 to 30	A0	26 Feb 2016	Intrinsically Safe Circuitry and Calculations Document
D100200	1 to 2	A0	26 Feb 2016	SA009 AC PSU Schematic and Layout
D100210	1 to 2	A0	26 Feb 2016	SA900 Thermal Fuse Positions
D100211	1 of 1	A0	26 Feb 2016	SA606 Certification Drawing
D100212	1 of 1	A0	26 Feb 2016	SA680 Assembly Drawing
D100214	1 of 1	A0	26 Feb 2016	SA735 Assembly Drawing
D100215	1 of 1	A0	26 Feb 2016	SA711 Assembly Drawing
D100217	1 of 1	A0	26 Feb 2016	SA790 Assembly Drawing
D100220	1 of 1	A0	26 Feb 2016	Block Diagram with Power Indications
D100222	1 to 2	A0	26 Feb 2016	SA606 Schematic and Layout
D100224*	1 of 1	A1	26 Feb 2016	SA849 Assembly Drawing
D100226	1 of 1	A0	26 Feb 2016	SA710 Assembly Drawing
D100227	1 of 1	A0	26 Feb 2016	SA705 Assembly Drawing
D100233	1 to 2	A0	26 Feb 2016	Base Thermal Fuse Reference Drawing – Basic Option
D100234	1 to 2	A0	26 Feb 2016	Lid Thermal Fuse Reference Drawing
D100235	1 to 3	A0	26 Feb 2016	SA909 Extended Plate Assembly Drawing
D100236	1 to 3	A0	26 Feb 2016	SA909 Standard Plate Assembly Drawing
D100237	1 to 2	A0	26 Feb 2016	Base Thermal Fuse Reference Drawing – Zigbee Option
D100238	1 to 2	A0	26 Feb 2016	Base Thermal Fuse Reference Drawing – Fibre media Converter Option
D100239	1 to 2	A0	26 Feb 2016	Base Thermal Fuse Reference Drawing – Exi Ethernet Option
D100240	1 to 2	A0	26 Feb 2016	LCD Thermal Fuse Position Drawing
D100241	1 of 1	A0	26 Feb 2016	SA731 Certification Drawing
D100242	1 of 1	A0	26 Feb 2016	Specification Plate and Warning Label

Certificate Annex

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Manufacturer **HMI Elements Ltd**

Drawing No	Sheets	Rev	Approved date	Title
D100243	1 of 1	A0	26 Feb 2016	Internal and external earth Stub Arrangement
D100244	1 of 1	A0	26 Feb 2016	SA795 Certification Drawing (Schematics)
D100245	1 of 1	A0	26 Feb 2016	SA795 Assembly Drawing
D100246	1 of 1	A0	26 Feb 2016	SA865 Certification Drawing (Schematics)
D100247	1 of 1	A0	26 Feb 2016	Enclosure Lid Certification Drawing
D100248	1 to 2	A0	26 Feb 2016	Enclosure Rear Certification Drawing
D100249	1 of 1	A0	26 Feb 2016	SA680 Certification Drawing (Schematics)
D100250	1 of 1	A0	26 Feb 2016	SA735 Certification Drawing (Schematics)
D100251	1 of 1	A0	26 Feb 2016	SA790 Certification Drawing (Schematics)
D100252	1 of 1	A0	26 Feb 2016	SA785 – Media Converter and Carrier Board
D100253	1 of 1	A0	26 Feb 2016	SA705 Certification Drawing (Schematics)
D100254	1 to 2	A0	26 Feb 2016	SA711 Schematic and Layout
D100255	1 of 1	A0	26 Feb 2016	501935 Bluetooth Module Certification Drawing
D100256	1 of 1	A0	26 Feb 2016	SA909 Certification Drawing (Schematics)
D100257	1 of 1	A0	26 Feb 2016	SA826 Bios back up Battery
D100258	1 of 1	A0	26 Feb 2016	SA816 Certification Drawing (Schematics)
D100259	1 of 1	A0	26 Feb 2016	SA849 Certification Drawing (Schematics)
D100260	1 of 1	A0	26 Feb 2016	Glass, Touchscreen sensor & Optically Bonded LCD Panel Certification Drawing
D100261	1 to 2	A0	26 Feb 2016	SA731 Schematic and Layout
D100265	1 of 1	A0	26 Feb 2016	Internal mounting Plate Bare PCB
D100266	1 of 1	A0	26 Feb 2016	Fuse Assembly
D100267	1 of 1	A0	26 Feb 2016	MIO2262 Battery Back Up Circuit
D500004	1 of 1	B	26 Feb 2016	IS752 Wi-Fi Antenna Barrier Circuit Diagram
D500005*	1 of 1	A	26 Feb 2016	IS752 Wi-Fi Antenna Barrier Board Layout
CAA10645	1 of 1	4	26 Feb 2016	S900 2CH AL/BR BH to ST PC 62.5/125 M/M 0.4mtr Optical Connector
FM-TN-068	1 to 4	A	26 Feb 2016	Wi-Fi Barrier General Construction
D502383	1 of 1	A0	26 Feb 2016	Modified Box for ISO752 Assembly
D100268	1 to 7	A0	26 Feb 2016	Fischer PS2 Creepage and Clearances

Certificate Annex

Certificate Number	**CML 15ATEX3203X**
Equipment	**470-Z1 Module**
Manufacturer	**HMI Elements Ltd**

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
D100194	1 to 9	B0	27 May 2016	General Arrangement Drawing
D100198	1 to 5	A1	27 May 2016	Protection Concepts
D100220	1 to 3	A1	27 May 2016	Block Diagram with Power Indications
D100265	1 to 2	B0	27 May 2016	Internal mounting Plate Bare PCB
D100269	1 of 1	A0	27 May 2016	Smart-Ex - 470-Z1 – Power Supply Construction Options
D100270	1 to 2	A0	27 May 2016	Smart-Ex – 470-Z1 – SA905 Base PCB and PSU Assembly Drawing
D100271	1 to 2	A0	27 May 2016	Smart-Ex – 470-Z1 – PSU Thermal Fuse Reference Drawing
D100272	1 of 1	A0	27 May 2016	Smart-Ex – 470-Z1 – SA987 DC to DC converter PSU Assembly Drawing

Issue 2

No drawings issued

Issue 3

Drawing No	Sheets	Rev	Approved date	Title
D100194	6 to 9	C0	17 Feb 2017	General Arrangement Drawing

Issue 4

Drawing No	Sheets	Rev	Approved date	Title
D100242	1 of 1	C0	16 Jan 2018	470-Z1 Specification Plate and Warning Label

Issue 5

Drawing No	Sheets	Rev	Approved date	Title
D100194	5a of 10	C1	22 Feb 2018	General Arrangement Drawing
D100194	6 to 10	C1	22 Feb 2018	General Arrangement Drawing
D100220	1 of 1	B0	22 Feb 2018	Block diagram with Power Indications
D100198	1 to 5	B0	22 Feb 2018	470-Z1 Protection Concepts
D100209	1 of 1	A0	22 Feb 2018	470-Z1 Wiring Diagram
D100275	1 to 2	A0	22 Feb 2018	470 Thermal Fuse Reference – Cotsworks Media Converter

Certificate Annex

Certificate Number **CML 15ATEX3203X**

Equipment **470-Z1 Module**

Manufacturer **HMI Elements Ltd**

Drawing No	Sheets	Rev	Approved date	Title
2444	1 to 3	3	22 Feb 2018	GEO-BEAM BH D 2CH (Reversed Mounting) Assembly & Customer Technical Outline
5313	1 of 1	B	22 Feb 2018	GEO-BEAM BH D 2CH Reversed Mounting to LC (Buffered Fibre 0.9mm)
5413	1 of 1	A	22 Feb 2018	Junior Protective Window 2CH Plug to LC (MIL-TAC)
BM / rev ENG01/13/2/18/RH	1 to 6	-	22 Feb 2018	Work Method for HMI Elements Fibre Bulkhead (Geobeam connector)
D100242	1 of 1	D0	22 Feb 2018	Specification Plate and Warning Label

Issue 6

Drawing No	Sheets	Rev	Approved date	Title
D100194	6 to 9	C2	28 Jun 2018	General Arrangement Drawing
D100198	1 to 5	C0	28 Jun 2018	Protection Concepts
D100209	1 of 1	B0	28 Jun 2018	470-Z1 Wiring Diagram
D100210	1 of 1	B0	28 Jun 2018	SA900 Thermal Fuse Positions
D100220**	1 of 1	C0	28 Jun 2018	Block Diagram with Power Indications
D100235	1 to 3	A2	28 Jun 2018	SA909 Extended Plate Assembly Drawing
D100246	1 of 1	B0	28 Jun 2018	SA865 Certification Drawing (Schematics)
D100256	1 of 1	B0	28 Jun 2018	SA909 Certification Drawing (Schematics)
D100270	1 to 2	A1	28 Jun 2018	SA905 base PCB and PSU Assembly Drawing
D100277	1 to 2	A0	28 Jun 2018	470-Z1 CotsWorks Potted Box – Bubble Diagram
RD0109	1 of 1	A0	28 Jun 2018	470-Z1 – SA1179 Positioning Placement
D100236*	1 to 3	A2	28 Jun 2018	SA865 Standard Plate Assembly Drawing

*The above drawing was included as part of the approved drawings but had been previously missed off the drawing list. This was corrected at Issue 7.

**The above drawing was included as part of the approved drawings but the drawing list stated ‘1of 3’ sheets instead of ‘1 of 1. This was corrected at Issue 7.

Issue 7

Drawing No	Sheets	Rev	Approved date	Title
D100194	6 of 9	C3	08 Mar 2019	General Arrangement Drawing
D100198	1 to 5	D0	08 Mar 2019	Protection Concepts
D100209	1 of 1	C0	08 Mar 2019	470-Z1 Wiring Diagram
D100224	1 of 1	B0	08 Mar 2019	SA849 Assembly Drawing
D100220	1 of 1	D0	08 Mar 2019	Block Diagram with Power Indications

Certificate Annex

Certificate Number **CML 15ATEX3203X**

Equipment **470-Z1 Module**

Manufacturer **HMI Elements Ltd**

Drawing No	Sheets	Rev	Approved date	Title
D100234	1 to 2	B0	08 Mar 2019	Lid Thermal Fuse Reference Drawing
D506113	1 of 1	A0	08 Mar 2019	Heat Spreader Plate for 470-Z1 Touchscreen Controller
BM / Rev A0 20/2/19 / RH	1 of 1	A0	08 Mar 2019	WORK Method FOR SA1349 DYTOS Touchscreen Controller Assembly

Issue 8

No additional drawings

Issue 9

Drawing No.	Sheets	Rev	Approved date	Title
D100194	1 to 5	C3	14 Apr 2022	General arrangement
D100194	6 to 9	C4	14 Apr 2022	470 Z-1 General arrangement
D100195	1 to 3	A1	14 Apr 2022	470 GA Case front
D100198	1 to 6	E1	14 Apr 2022	4*0-Z1 Protection concepts
D100209	1 to 2	D1	14 Apr 2022	470-Z1 Wiring diagram
D100211	1 to 2	A1	14 Apr 2022	470 SA606 Certification drawing
D100214	1 to 2	A1	14 Apr 2022	470-Z1 WiFi Carrier Board Assembly Drawing
D100220	1 to 2	E1	14 Apr 2022	470-Z1 Block diagram with power indications
D100224	1 to 3	C0	14 Apr 2022	470_Z1 SA849 Assembly drawing
D100234	1 to 4	C0	14 Apr 2022	470_Z1 Lid thermal fuse reference drawing
D100240	1 to 4	B0	14 Apr 2022	470_Z1 LCD thermal fuse position drawing
D100241	1 to 2	A1	14 Apr 2022	SA731 certification drawing
D100250	1 to 2	A1	14 Apr 2022	SA735 certification drawing (schematics)
D100242	1 of 1	G0	14 Apr 2022	470-Z1 Specification plate and warning label