



中国船级社  
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.  
LD20PTA00004\_02

型式认可证书  
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

Northrop Grumman Sperry Marine B.V.

地址/Address

118 Burlington Road, New Malden, Surrey KT3 4NR, United Kingdom

产品名称/Product

带海图选项的雷达设备 CAT 1C  
Radar Equipment Approved with a Chart Option CAT 1C  
雷达设备CAT 1  
Radar Equipment Cat 1

附加标志/Notations

无/Nil.

认可标准/Approval Standard

- 1. IMO A. 694 (17) 决议《作为全球海上遇险和安全系统 (GMDSS) 组成部分的船载无线电设备和电子导航设备的一般要求》  
IMO Resolution A.694(17):General requirements for shipborne radio equipment forming part of the global maritime distress and safty system(GMDSS)and for electronic navigational aids
- 2. 国际海事组织海安会决议MSC. 191 (79) 《船载航行显示器有关航行信息显示的性能标准》  
IMO Resolution MSC.191(79) Performance Standards for the Presentation of Navigation-Related Information on Shipborne Navigational Displays
- 3. 国际海事组织海安会决议MSC. 192 (79) 《经修订的〈关于雷达设备性能标准的建议案〉》  
IMO Resolution MSC.192(79) Adoption of the Revised Performance Standards for Radar Equipment
- 4. 国际海事组织大会决议Res. A. 278 (VIII) 《航海雷达设备控制符号》  
IMO Res.A.278(VIII) Control Symbol of Navigation Radar Equipment
- 5. 国际电联联盟建议书ITU-R M. 1177-4 (04/2011) 《对于雷达系统无用发射的测量技术》  
ITU-R M.1177-4(04/2011) Techniques for Measurement of Unwanted Emissions of Radar Systems
- 6. IEC 62388:2013/COR1:2014 Edition 2.0 (2014-02-12) 《导航和无线电设备-船用雷达-性能要求、测试方法和要求的测试结果》  
IEC 62388:2013/COR1:2014 Edition 2.0 (2014-02-12) Maritime navigation and radiocommunication equipment and systems - Shipborne radar - Performance requirements, methods of testing and required test results
- 7. IEC 60945:2002/COR1:2008 《船用航行和无线电通信设备及系统-通用要求-试验方法和试验结果的要求》  
IEC 60945:2002/COR1:2008 Maritime Navigation and Radiocommunication Equipment and Systems -General

证书有效期至/ This Certificate is valid until 2024年12月08日/ Dec. 08,2024

发证机构/ Issued by 中国船级社伦敦办事处  
CCS London Office

签发日期/ Date 2021年01月22日  
Jan. 22,2021

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: Q01.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P020-27817475

## Requirements – Methods of Testing and Required Test Results

8. 国际海事组织大会决议Res. A. 823 (19) 《船用自动雷达标绘仪性能标准 (ARPAs) 》

IMO Res.A.823(19)Performance Standards for Automatic Radar Plotting Aids (ARPAs)

9. IEC 61162系列标准《海上导航和无线电通信设备和系统---数字接口》

IEC 61162 series: Maritime Navigation and Radio Communication Equipment and Systems- Digital Interface;

10. IEC 62288: 2014《海上导航和无线电通信设备及系统---船载导航显示器上与导航相关的信息的表示法---一般要求、试验方法和要求的试验结果》

IEC 62288:2014 Maritime navigation and radiocommunication equipment and systems - Presentation of navigation-related information on shipborne navigational displays - General requirements, methods of testing and required test results

11. IMO MSC. 302 (87) 《通过驾驶室警报管理性能标准》

IMO MSC.302 (87) Adoption of performance standards for Bridge Alert Management

## 用于/Intended for

船舶与海上设施/Ships and Offshore Installations

## 产品明细/Product Description

## 雷达设备CAT 1/Radar Equipment Cat 1 (M0001)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	VersionMaster FT, CAT1C 34, Chart Radar Systems	
系统组成/System Component	See Others	
额定电压/Rated Voltage	100-240V AC, 50/60Hz	
峰值功率/Peak of Output Power	X-Band:10kW or 25 kW; S-Band:30kW	
天线长度/Length of Antenna	X-Band:4ft, 6ft or 8ft; S-Band:12ft	
软件版本号/Software Version	V12. 4. 0	
工作频率/Operating Frequency	X-Band:9. 410GHz; S-Band:3. 050GHz	
最小操作显示区直径/Minimum Operation Display Area Diameter	328mm	
最小显示区域/Minimum Display Area	550x343mm (25. 5") or 470x352mm (23")	
是否具有自动捕获目标功能/Whether Includes Auto Acquisition of Targets Function	Yes	
最少被捕获的雷达目标数/Minimum Acquired Radar Targets Capacity	100	
最少被激活的AIS 目标数/Minimum Acquired Ais Targets Capacity	40	
最少休眠AIS 目标数/Minimum Sleeping Ais Targets Capacity	200	
是否具有试操船功能/Whether Includes Trial Manoeuvre Function	Yes	
罗经安全距离/Compass Safe Distance	Display: Standard:2. 6m;Steering:2. 6m X-Band: Standard:3. 3m;Steering:2. 0m S-Band: Standard:4. 3m;Steering:2. 6m	
性能监测器型号/Performance Monitor Type	Integral	
是否集成电子标绘 (EPA) 功能/Whether Electric Plotting Aid Function Be Integrated Into The Radar Equipment	No	
是否集成自动目标跟踪 (ATA) 功能/Whether Automatic Tracking Aid Function Be Integrated Into The Radar Equipment	Yes	

是否集成自动雷达标绘 (ARPA) 功能/Whether Automatic Radar Plotting Aid Function Be Integrated Into The Radar Equipment	Yes	
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### 批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : NP17A00397

### 产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : QinetiQ/SPSD/EMC/2005/081  
 试验报告日期/ Test Report Date : 2006-12-06  
 试验单位/ Laboratory: QinetiQ  
 试验单位地址/ Test Address: Cody Technology Park Ively Road,Farnborough Hampshire,GU14 0LX

试验报告编号/ Test Report No. : QinetiQ/EMEA/iX/CR070194/Issue 1.0  
 试验报告日期/ Test Report Date : 2007-12-20  
 试验单位/ Laboratory: QinetiQ  
 试验单位地址/ Test Address: Cody Technology Park Ively Road,Farnborough Hampshire,GU14 0LX

试验报告编号/ Test Report No. : QinetiQ/MS/EES/TSTR0801152/1.1  
 试验报告日期/ Test Report Date : 2008-07-08  
 试验单位/ Laboratory: QinetiQ  
 试验单位地址/ Test Address: Cody Technology Park Ively Road,Farnborough Hampshire,GU14 0LX

试验报告编号/ Test Report No. : QinetiQ/MS/EES/TSTR0801808/1  
 试验报告日期/ Test Report Date : 2008-08-29  
 试验单位/ Laboratory: QinetiQ  
 试验单位地址/ Test Address: Cody Technology Park Ively Road,Farnborough Hampshire,GU14 0LX

试验报告编号/ Test Report No. : QinetiQ/EMEA/iX/CR0802757/Issue 1.1  
 试验报告日期/ Test Report Date : 2008-02-19  
 试验单位/ Laboratory: QinetiQ  
 试验单位地址/ Test Address: Cody Technology Park Ively Road,Farnborough Hampshire,GU14 0LX

### 认可后的产品检验方式/ Method of Product Inspection after Approval

认可后的产品检验由制造厂按本社批准的产品检验计划进行，本社在文件审核合格后颁发船用产品证书。  
 After approval, product inspection should be carried out by the Manufacturer in accordance with the product inspection scheme approved by the Society, and the Marine Product Certificate is issued by the Society upon satisfactory documents review.

### 认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后，如果产品及其重要零部件的设计、所用材料或制造方法有所改变，且影响到产品的主要特性、特征；或产品的性能指标有所更改，且超过认可的范围，则有关图纸和文件应经检验机构审批。并在检验机构认为必要时，经本社检验人员见证有关试验和进行检查，其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行，并且与认可时一致。如果质量管理体系发生改变，应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内，如果出现可能导致本社取消认可的情况，工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内，本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核，以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 型式认可A证书获得者应接受本社每年一次的定期审核，定期审核日为认可证书期满之日对应的每一周年日，检查工作应在周年日的前后三个月内进行。

Those who have obtained the certificate of type approval A should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

## 备注/Remarks

本社已审核了产品厂无石棉声明，但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

本证书基于原证书 (No. LD17Q00007\_02) 签发并替代原证书。

The certificate is reissued based on and supersedes the previous certificate (No. LD17Q00007\_02).

Other Description:

Bearing Discrimination:

Better than 1.3° with 8ft X Band antenna;

Better than 2.4° with 12ft S Band antenna

Hardware:

Radar Display-LCD Monitor;

Processor-Radar;

VMFT PCIO Interface Unit;

Control Panel;

Secuirty Device:

X-Band:

Transceiver/Turning Unit (10kW or 25kW)

or Transceiver Bulkhead (10kW or 25kW)

and Turning Unit;

X-Band Antenna (4, 6 or 8ft)

S-Band:

Transceiver/Turning Unit (30kW)

or Bulkhead Transceiver (30kW)

and Turning Unit;

S-Band Antenna 12ft;

Scanner Control Unit

Interswitch

中国船级社伦敦办事处  
CCS London Office