

ESCC Executive Report

Anastasia Pesce and ESA ESCC executive Team

Deputy ESCC Executive manager

ESCCON 2021

March 9-11, 2021



ESA-TECQEC-HO-022415

The ESCC QPL/QML

The European Space Components Qualification Program



What: European ^[Note 1] EEE Parts manufactured and qualified in Europe as major building block for each ESA satellite

Why: To secure the access of the European Space Industry to an independent and stable supply of reliable EEE Parts qualified for space for more than 40 years

Who: **ESA acts as the Qualifying and Certification Agency** for ESCC with the support of ESCC Executive members ESA, CNES (FR), DLR (D), EI (Ir), UKSA (UK)



How: Through ESCC procurement (Detail) and qualification specifications, initial qualification program, process control (PID), verification every two years (MOQ testing-no need of Lot by LOT verification), QA (Audit/NC follow-up)

[Note 1] "European component" At least the quality operations (e.g. inspections and tests), being performed in one or more, and the delivered component originating from one, of the Member States of ESA or a state or country with a cooperation agreement with ESA. A component which may have the benefit of ESCC qualified status by virtue shall be free from any form of selective export controls

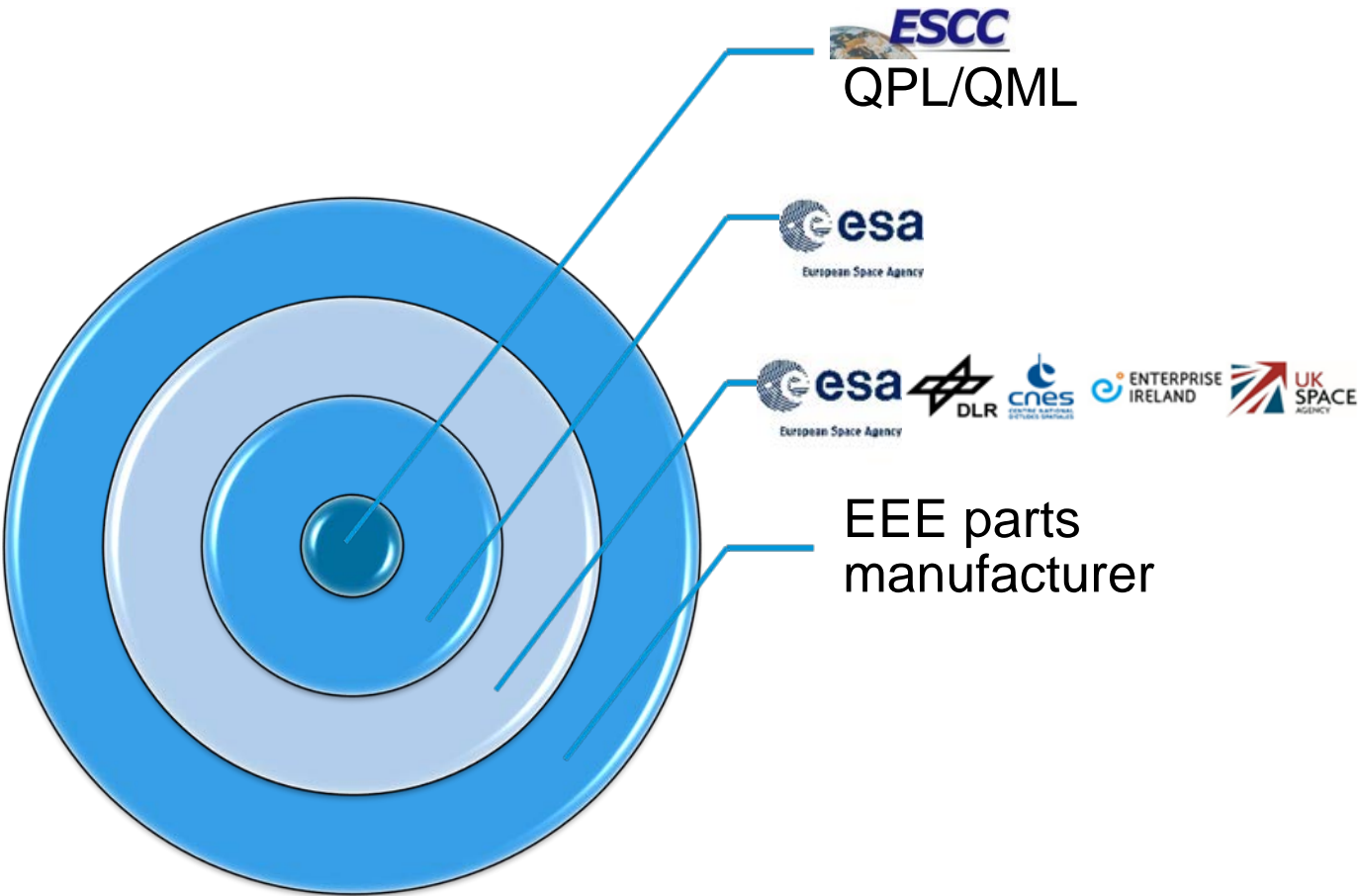
ESA UNCLASSIFIED - For Official Use



The ESCC qualification organization and process



ESCC COMPONENT QUALIFICATION QUALIFIED PARTS LIST (QPL)



ESA acts as the Qualifying Authority for the ESCC qualification program, and it is supported by the National Space Agencies that have subscribed to the qualification program in their respective European countries as major stakeholders
ESA and National Space Agencies (CNES, DLR, Enterprise Ireland, UK Space Agency)



ESCC certificates issued in the last 12 months (Feb 2020 – Feb 2021)


New
certificate

PCA Hybrid
QML
QPL



February 2021	289 Vishay Selb	257 Tyco Elec	159 Tyco Elec	266 TE Connectivity	New 371 RAKON	348 Radiall	325 Minco	287 Vishay nice					
	305 W. L. Gore DE	304 W. L. Gore DE	350 Radiall	352 IST	New 370 Axon' Cable								
December 2020	301 Souriau	156 Souriau	155 Souriau										
	New 369 STM	361 STM											
October 2020	303 STM	336 SCHURTER AG	284 SCHURTER AG										
	219 W. L. Gore DE	215 W. L. Gore DE	New 368 STM	285 Isabellenhütte									
August 2020	223 Souriau	222 Souriau	221 Souriau	220 Souriau	088 REL STPI	318 Leach S	317 Leach S	241 Exxelia Magn					
June 2020	266 TE Connectivity	353 Exxelia Techn	251 Exxelia Tech	New 367 AVX	331 AVX	313 Kongsberg							
	328 W. L. Gore DE	361 STM	205 REL STPI	167 REL STPI	098 REL STPI	185 Radiall	178 Radiall	024 Nexans	009 Nexans	008 Nexans	New 360 Infineon	324 Exxelia Tech	341 Tesat
April 2020	255 W. L. Gore DE	190 STM	073 STM	283 Radiall	068 Radiall	323 Exxelia Tech	New 366 AVX Cz	351 3D plus					
	229 W. L. Gore DE	216 W. L. Gore DE	272 STM	329 Rosenberger	325 Minco	007 Draka Fileca	196 AVX Cz	New 364 Flux S/A.					
February 2020	289 Vishay Selb	256 Vishay Selb	272 STM	296 Leoni	295 Leoni	294 Leoni	281 Hypertac	250 Hypertac	149 Hypertac	099 Hypertac	071 C&K	New 365 Axon' Cable	

New ESCC certificates issued in the last 12 months (Feb 2020 – Feb 2021)

February 2021	371 - RAKON - (France) CRYSTAL OSCILLATOR RK135, CLASS 2, 4MHz to 100MHz, AHCMOS compatible output, RAD-HARD
	370 - Axon' Cable - (France) CONNECTORS, ELECTRICAL, RECTANGULAR, MICROMINIATURE BASED ON TYPE MDM and MDSA D-CLICK
December 2020	369 - STM - (France) Bipolar (PN) Power Diodes based on type BYV, BYW and STTH
October 2020	368 - STM - (France) Power Schottky Barrier Diodes based on types 1N5819U, 1N5822U and STPS
August 2020	
June 2020	367 - AVX - (United Kingdom) Capacitors, ceramic, type II, High capacitance and high voltage
	360 - Infineon - (Germany) TRANSISTORS, POWER, MOSFET, N CHANNEL, RAD-HARD BASED ON TYPES BUY65CS08J-01, BUY65CS28A-01
April 2020	366 - AVX Cz - (Czech Republic) Polymer Multi Anode Tantalum Capacitors
	364 - Flux S/A. - (Denmark) Custom Magnetics (Inductors, Chokes and Transformers)
February 2020	365 - Axon' Cable - (France) RF Cable Assembly, 2.4mm connectors, low power, 50 ohms, flexible cable, DC to 45Ghz based on type Axowave SL34SQ

March 2020 : Flux A/S added to the ESCC Qualified Manufacturer List

- Supplying ESCC Qualified Custom Magnetics in addition to their existing portfolio of Space Grade products (MIL-PRF-27 Qualified parts)
- Manufactured and tested in accordance with Detail Specification ESCC3201/013

Flux A/S Customised Magnetics : Over 25 years of experience in design and manufacturing of magnetic components



Contact Details: **Flux A/S**
 Industrivangen 5, 4550 Asnaes, Denmark
 e-mail: Space@Flux.dk | Web: www.flux.dk

ESCC Qualification Certificates: > 40 Years of active qualifications



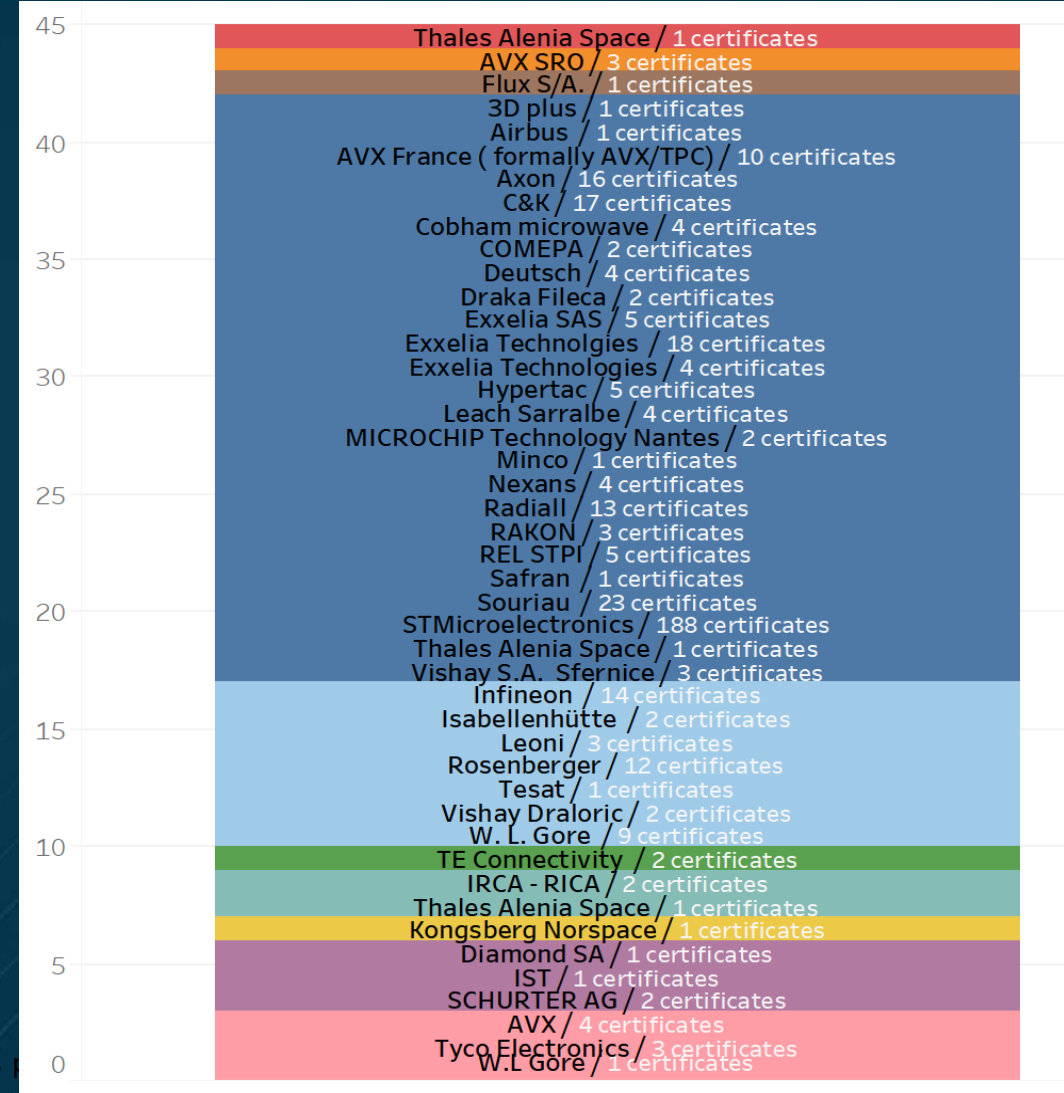
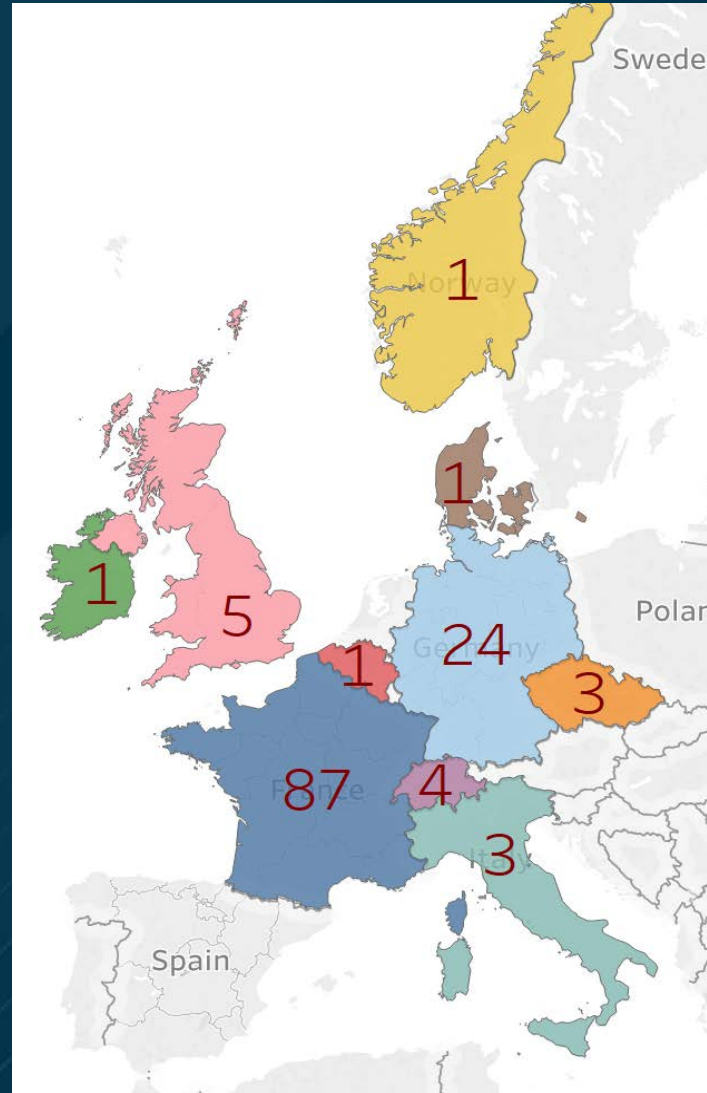
Certificate	Certificate Title	Manufacturer
007T	Polyimide, Types FA 3901-1, FA 3901-2	Draka (France)
008T	Wires and Cables, Low Frequency, PTFE/Polyimide insulation, based on Types MTV-BTV	Nexans
009S	Wires And Cables, Low Frequency, Polyimide Insulation Based On Types 1871 - 1872	Nexans
024U	Wires and Cables, RF Coaxial, PTFE/Polyimide insulation, based on types 50 CIS	Nexans
025R	Connectors, Miniature, Electrical, Circular, Push-Pull Coupling, Removable Crimp Contacts, based on Type DBAS	Deutsch



Title	Manufacturer	Initial certificate year
s, RF, Solder and contacts, Male, Female and Connectors based on type SMA	Radiall (France)	1981-12-01
Electrical, Solder and Wire wrap contacts, rectangular plug and Plug based on	C&K Components (France)	1981-09-01
Crimp Contacts, Series Rectangular	C&K Components (France)	1981-09-01
uits, Digital CMOS, Series	STMicroelectronics (France)	1981-02-01

Status ESCC certification February 2021

Number of certificates: **130**
 Number of part type families: **329**
 Number of manufacturers: **43**
 Number of countries: **10**
 Number of Agencies: **5**



New ESCC certificates in the 2021 Annual Qualification Plan

QPL	Smiths Interconnect Hypertac S.A.	Italy	Connectors
QPL	Positronics	France	Pressfit connector
QPL	RAKON France	France	Crystal oscillators RK135, CLASS 2, 4MHz to 100MHz, AHCMOS compatible output, RAD-HARD ✓ February 2021
QPL	Space IC	Germany	POL Converter
QML	STMicroelectronics	France	FPGA NG-Medium, 65nm STM technology
QPL	MICROCHIP Technology Nantes	France	GNSS base-band processor AT7991 (AGGA-4)
QPL	Leach International Europe (Niort)	France	Relay, Non-Latching, Electromagnetic, Type GP5
QPL	Radiall	France	RF relay
QPL	STMicroelectronics	Italy	Power MOSFET
ATH PCA	Lewicky	Germany	Assembly of Transistors, Power, MOSFET
QPL	W. L. Gore & Co	Germany	Wires And Cables, LEW type
HPCL	IMST	Germany	Mixed-signal ASIC 0.18u (Xfab)
HPCL	Kongsberg Norspace	Norway	New hermetic line
QPL	3D plus	France	Memory modules
QPL	Axon' Cable	France	RF cable assembly with fast locking microD
QPL	Axon' Cable	France	Cable assembly HDR Axomach (Versatis)
QPL	Axon' Cable	France	Rectangular connector type MDM and MDSA D-CLICK ✓ January 2021



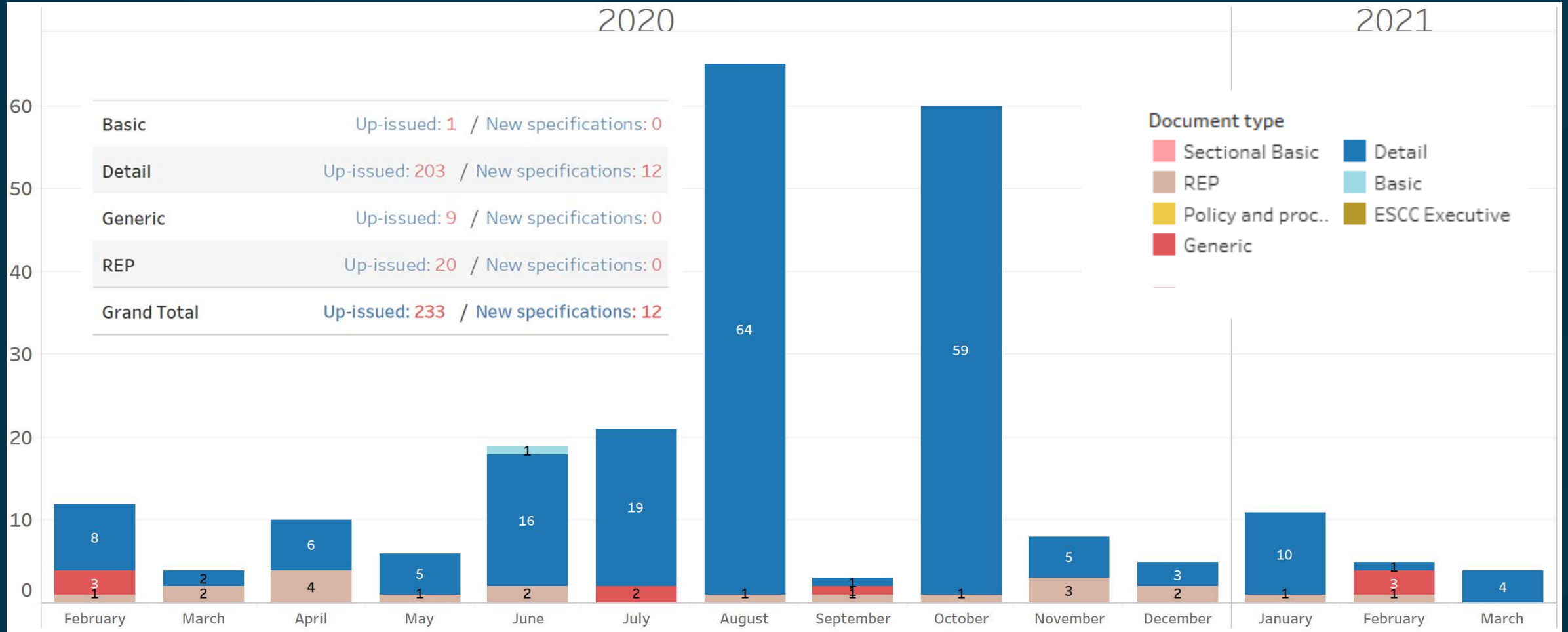
New specifications published from Feb 2020 to Feb 2021

12 new Detail specifications



ESCC 3009/045 Iss 1	Capacitors, Fixed, Chips, Ceramic Dielectric, Type 1 N2200 based on types 0603 to 1210	new Detail November 2020
ESCC 3201/013 Iss 1	CUSTOMISED MAGNETICS (INDUCTORS, TRANSFORMERS) BASED ON TYPE FT	new Detail March 2020
ESCC 3401/095 Iss 1	CONNECTORS, ELECTRICAL, RECTANGULAR, MICROMINIATURE, HIGH DATA RATE (FEMALE CONTACTS) BASED ON TYPE MICROMACH	new Detail February 2020
ESCC 3401/096 Iss 1	CONNECTOR SAVERS, ELECTRICAL, RECTANGULAR, MICROMINIATURE, HIGH DATA RATE BASED ON TYPES MICROMACH	new Detail February 2020
ESCC 3408/003 Iss 1	RF CABLE ASSEMBLY, 2.4MM CONNECTORS, LOW POWER, 50 OHMS, FLEXIBLE CABLE, DC TO 45GHZ BASED ON TYPE AXOWAVE SL34SQ	new Detail February 2020
ESCC 3408/004 Iss 1	RF CABLE ASSEMBLY, 2.92MM CONNECTORS, LOW POWER, 50 OHMS, Flexible CABLE, DC to 32 GHz BASED ON TYPE AXOWAVE SL44SQ	new Detail January 2021
ESCC 3409/002 Iss 1	HIGH DATA RATE CABLE ASSEMBLIES WITH MICROMINIATURE, RECTANGULAR, CONNECTORS BASED ON TYPE MICROMACH	new Detail February 2020
ESCC 3901/026 Iss 1	LIGHTWEIGHT, EXTRA THIN, FLUOROPOLYMER INSULATED WIRES AND CABLES, LOW FREQUENCY, 600V, -200 TO +200 °C, BASED ON TYPE LEW	new Detail August 2020
ESCC 5201/020 Iss 1	TRANSISTORS, LOW POWER, NPN BASED ON TYPE 2ST15300	new Detail May 2020
ESCC 5205/033 Iss 1	TRANSISTORS, POWER, MOSFET, N-CHANNEL, RAD-HARD BASED ON TYPES BUY65CS08J-01 AND BUY65CS28A-01	new Detail May 2020
ESCC 9202/084 Iss 1	INTEGRATED CIRCUITS, SILICON MONOLITHIC, CMOS, MIXED SIGNAL ASIC BASED ON A RAD-HARD XH018 IP LIBRARY	new Detail February 2020
ESCC 9512/005 Iss 1	INTEGRATED CIRCUITS, SILICON MONOLITHIC, SPARC V8 GNSS CONTROLLER BASED ON TYPE AT7991	new Detail May 2020

Status ESCC specifications published since February 2020



Impact of COVID19 on ESCC activities

ESCC Training in October 2020 connected to SPCD cancelled

Conferences supported by ESCC: SPCD Cancelled, ESCCON Virtual, ACCEDE Postponed

ESCC Audits and surveys at manufacturer's premises cancelled. Some replaced by on line surveys

ESCC Meetings (SCSB, PSWG, CTB, CTB WG) as usual schedule but on line only


ESCC Qualification Program- What's next




A strategic vision for ESCC qualified components considering the changes in the European supply chain, the needs expressed by old and new Space players and the new offers coming from European manufacturers

Plastic part/organic packages in ESCC, New ESCC Specs/Changes, New Qualifications/New products for a new market/New players/New Certification and Qualification schemes

- Maintain the European independence and non-dependence on reliable and space qualified parts
- Maintain a stable European supply chain
- Support the trend of shorter manufacturing cycle by providing a large portfolio of plug and play ready to use EEE components



ESCIES
European Space Components Information Exchange System



ESCC
European Space Components Coordination

[Home](#) [Our activities](#) [Technologies](#) [Other resources](#)

Search:



esccon
09 – 11 March 2021 - Virtual Event
REGISTRATION NOW OPEN !!

ESCICON 2021

The European Space Components Conference will be a Virtual Event held from 9 -11 March 2021. REGISTRATION is now OPEN! For more information, please click [HERE](#)

Start

What's new on ESCIES



ESCC Specifications



QPL



QML



ESCC HPCL



EPPL



ESA Radiation Activities



ESCC brochure



ECI



PCB qualification



SMT verification

Acknowledgment



Thank you for the continuous support to the ESCC qualification program

ESCC Executives in France, Contact Mr. JeanPaul Bussenot (CNES)

ESCC Executives in Germany, Contact Mr. Burak Goekgoez (DLR)

ESCC executives in United Kingdom, Contact Mr. Tony Forsythe (UKSA)

ESCC executives in Ireland, Contact Mr. John Brierty (Enterprise Ireland)

ESA ESCC Executives:

Britta Schade: Head of Product Assurance and Safety Department TEC-Q

Mikko Nikulainen: ESCC Executive Manager

Anastasia Pesce: Deputy ESCC Executive Manager

Federico Chiusano: Head of the Requirement and Standard Section TEC-QES

Denis Lacombe

Stephan Hernandez

Mustapha Zahir

Fernando Martinez Martin

Holly Krijgsman

Steve Thacker, Steve Jeffrey, James Weiss

See you at ESCCON 2023?

Thank you for your participation to the ESCC Program