TACS4 Regulatory & Approval Database

DEKRA

TACS4

Testing, Approvals & Certification System

Bluetooth

Medical

ZigBee

Wireless Charging

GNSS receivers

Automotive Radar

Broadcasting Receivers

UWB

5G

WLAN

3GPP LPWAN

LTE

Intelligent Transport Systems

RFID

Immobilizers

3G

Telecommand and Telemetry

LPWAN

2G

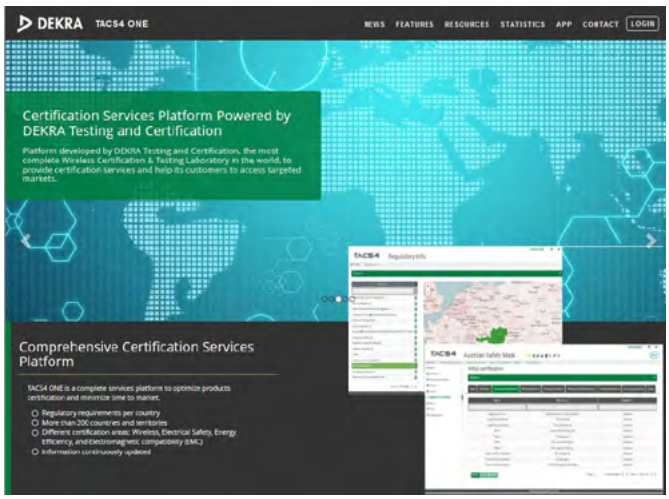
Active medical implants and peripherals

DEKRA On the safe side

The first Regulatory & Approval Database on the market

Approvals Strategic Support - Product Planning - Real Time Reporting

"TACS4 - Regulatory & Approval Database" is an innovative online database service that includes detailed RF regulatory & approval requirements in over 226 geographical areas for a large number of cellular and wireless technologies.
"TACS4 - Regulatory & Approval Database" is a service powered with TACS4 "Testing, Approvals & Certification System".



https://one.tacs4.com/

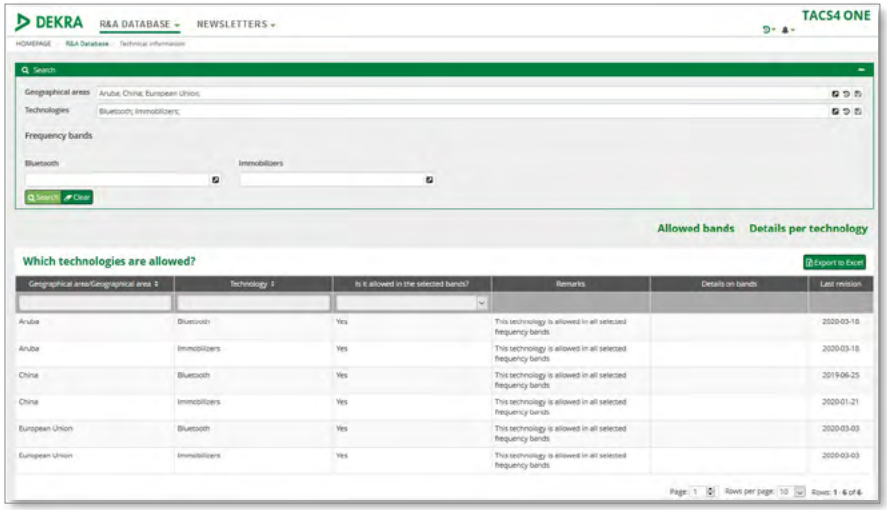
In-country radio approval regulations vary significantly from country to country. In fact, the certification process can become a challenging task when launching radio products in different markets. Nowadays, there is an important tendency to have radio technologies embedded in different products for markets such as telecoms, automotive, IT, consumer electronics, health, security, logistics,... This leads to the increasing need of Radio Type Approval for any devices that will be introduced in the global market.

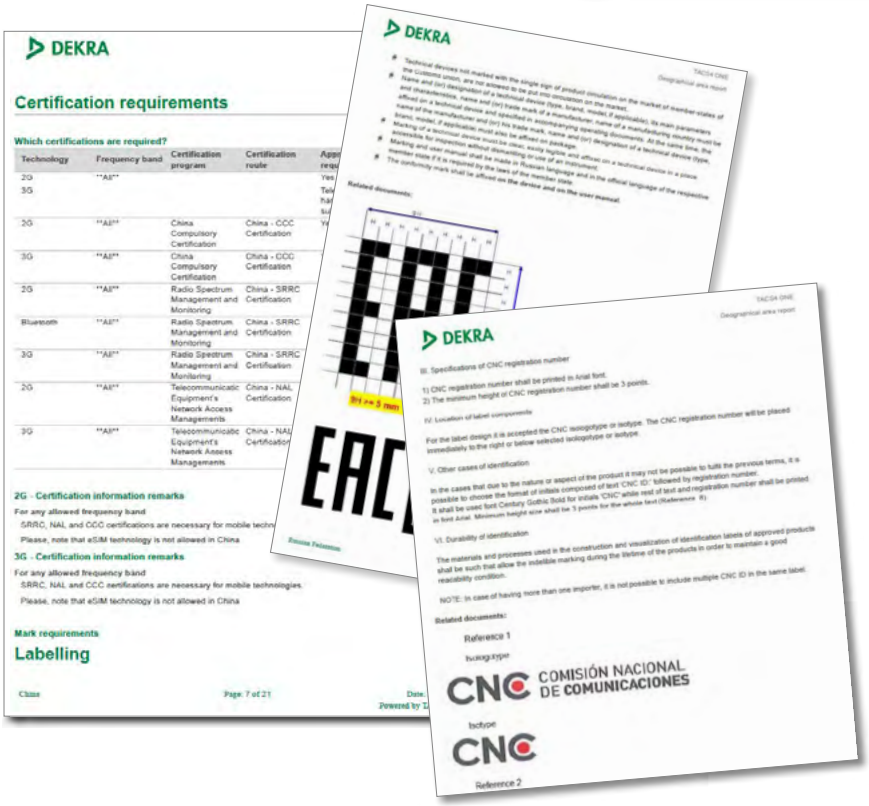
DEKRA offers this innovative Regulatory and Approval Database as a part of its International Type Approval Services portfolio.
The service provides a powerful online tool, developed and continuously updated by a team of experts in International Type Approval, allowing its users to access detailed information about specific regulations applicable to the most important radio technologies across the world in real time.
This service is extremely useful when it comes to product planning and approvals budgeting for an international launch, and can save a significant deal of time and resources to its users. DEKRA supports its know-how and updates all information with the help of a network of over 100 partners globally and through our dedicated & experienced team who has successfully acquired thousands of certificates for our customers.

TACS4 - Regulatory & Approval Database

Functional Characteristics

- Creation of reports by technologies and/or geographical area
- Printable pdf version available
- Information displayed with the latest updates
- Certification FAQ´s (Frequently Asked Questions about certification issues)





Some Type Approval Process Details

- Is certification required?
- Type of certificate
- Details on certification process
- Validity of the certificate
- Need of local representation
- Marketing requirements:
  - Labelling
  - Packaging
  - User manual

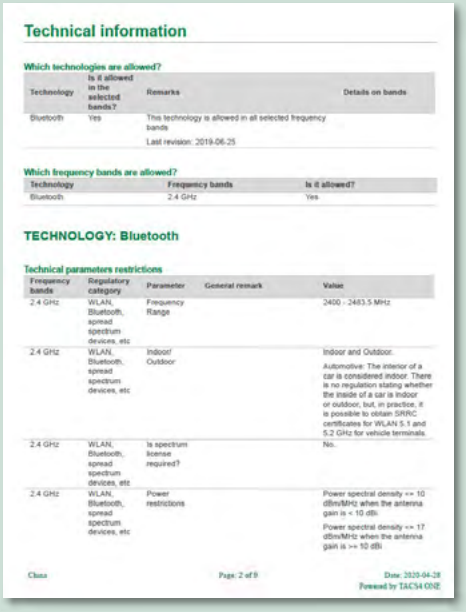
Technologies available at a worldwide level

- **LTE** (Band 01, Band 02, Band 03, Band 04, Band 05, Band 07, Band 08, Band 12, Band 13, Band 14, Band 17, Band 20, Band 25, Band 28, Band 38, Band 40, Band 41)
- **2G** (GSM 1900, GSM 1800, GSM 900 and GSM 850)
- **3G** (FDD - Band I, FDD - Band II, FDD - Band V and FDD - Band VIII)
- **Automotive Radar** (24 GHz (24.05 - 24.25 GHz), 60 GHz (57-66 GHz) 77 GHz (76 - 77 GHz), 79 GHz (77 - 81 GHz))
- **Bluetooth** (2.4 GHz (2400 - 2483.5 MHz))
- **Video broadcasting receivers (DVB-T/T2)**
  - 170-240 MHz
  - 470MHz-786 MHz
- **Audio broadcasting receivers**
  - Below 30 MHz (DRM)
  - 87.5-108 MHz (FM band)
  - 174-240 MHz (DAB)
- **GNSS Receivers**
  - 1559 - 1610 MHz - L1 band
  - 1215-1260 MHz - L2 band
- **Immobilizers** (119 - 140 KHz)
- **NFC** 13.56 MHz (13.553-13.567 MHz)
- **RFID** (119-140 KHz, 13.56 MHz, 315 MHz, 433.92 MHz, 868 MHz, 915 MHz, 2.4 GHz, 5.8 GHz)
- **Telecommand and Telemetry** (315 MHz (312 - 316 MHz), 433.92 MHz (433.05 - 434.79MHz), 868 MHz (863 - 870 MHz), 915 MHz (902 - 928 MHz))
- **WLAN**
  - 2.4 GHz (2400 - 2483.5 MHz)
  - 5.1 GHz (5150 - 5250 MHz)
  - 5.2 GHz (5250 - 5350 MHz)
  - 5.4 GHz (5450 - 5725 MHz)
  - 5.8 GHz (5725 - 5850 MHz)
  - 6 GHz (5925-7125 MHz)
  - 60 GHz (57 - 66 GHz)
- **Medical - Active medical implants and peripherals** (9 - 315 KHz, 401 - 402 MHz, 402 - 405 MHz, 405 - 406 MHz)
- **ZigBee -** (2.4 GHz (2400 - 2483.5 MHz))
- **Wireless charging**
  - 6.78 MHz (6.765-6.795 MHz)
  - 100-119 kHz
  - 119-140 kHz
  - 140-148.5 kHz
  - 148.5-300 kHz
- **LPWAN** (433.92 MHz (433.05-434.79 MHz), 915 MHz (902-928 MHz), 868 MHz (863 - 870 MHz))
- **Low Power Data Communication System** (60 GHz)
- **UWB** (11 Bands)

*To be included along 2022

Technologies available in some specific geographical areas

- **3GPP LPWAN*** (38 Bands)
- **LTE*** (66 Bands)
- **5G*** (60 Bands)
- **Intelligent Transports Systems*** (C-V2X, DRSC): 5.8 GHz (5725-5850 MHz) , 5.9 GHz (5850-5935 MHz), 60 GHz *.



Technical information

Which technologies are allowed?

Technology	Is it allowed in the selected bands?	Remarks	Details on bands
Bluetooth	Yes	This technology is allowed in all selected frequency bands Last revision: 2019-06-25	

Which frequency bands are allowed?

Technology	Frequency bands	Is it allowed?
Bluetooth	2.4 GHz	Yes

TECHNOLOGY: Bluetooth

Technical parameters restrictions

Frequency bands	Regulatory category	Parameter	General remark	Value
2.4 GHz	WLAN, Bluetooth, spread spectrum devices, etc	Frequency Range		2400 - 2483.5 MHz
2.4 GHz	WLAN, Bluetooth, spread spectrum devices, etc	Indoor/ Outdoor		Indoor and Outdoor. Automotive: The interior of a car is considered indoor. There is no regulation stating whether the inside of a car is indoor or outdoor, but, in practice, it is possible to obtain SRRC certificates for WLAN 5.1 and 5.2 GHz for vehicle terminals.
2.4 GHz	WLAN, Bluetooth, spread spectrum devices, etc	Is spectrum license required?		No.
2.4 GHz	WLAN, Bluetooth, spread spectrum devices, etc	Power restrictions		Power spectral density <= 10 dBm/MHz when the antenna gain is < 10 dBi Power spectral density <= 17 dBm/MHz when the antenna gain is >= 10 dBi

China Page: 2 of 9 Date: 2020-04-28 Powered by TACS4 ONE

Information related to **interesting technical parameters** (from a **certification perspective**) such as: **maximum power**, **work cycle**, **antenna gain**, etc.

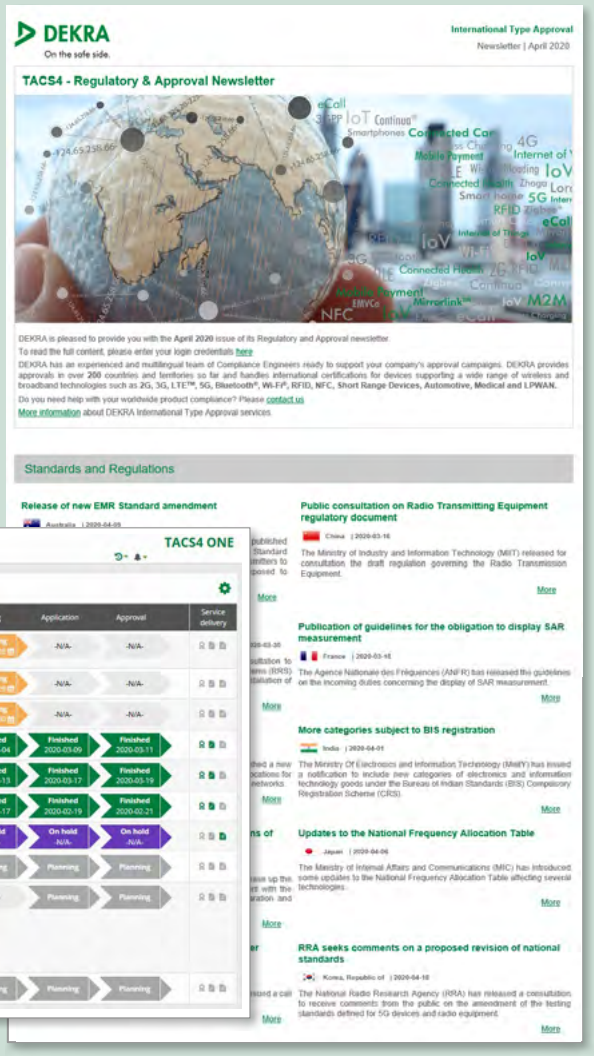
TACS4
Testing, Approvals & Certification System

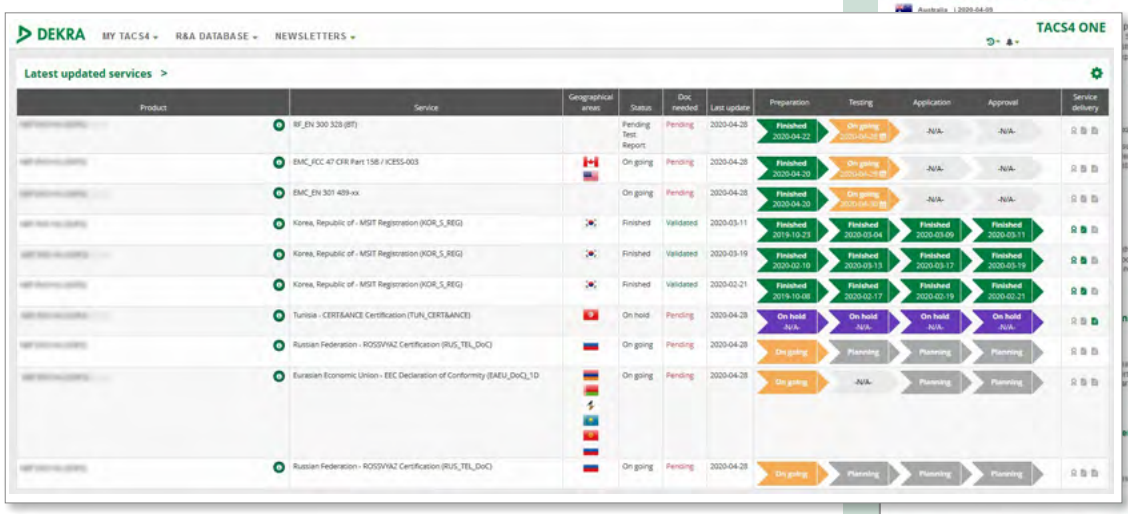
Other Certification Services

- International Type Approval Services Globally
- TCB (Telecommunications Certification Body) by FCC
- FCB (Foreign Certification Body) by ISED
- Notified Body for the RED 2014/53/EU
- Notified Body for the EMC Directive 2014/30/EU
- BQC (Bluetooth Qualification Consultant)
- ULE Alliance (Qualification Body)
- NFC Forum
- Wi-Fi Alliance (WFA)
- PTCRB certification

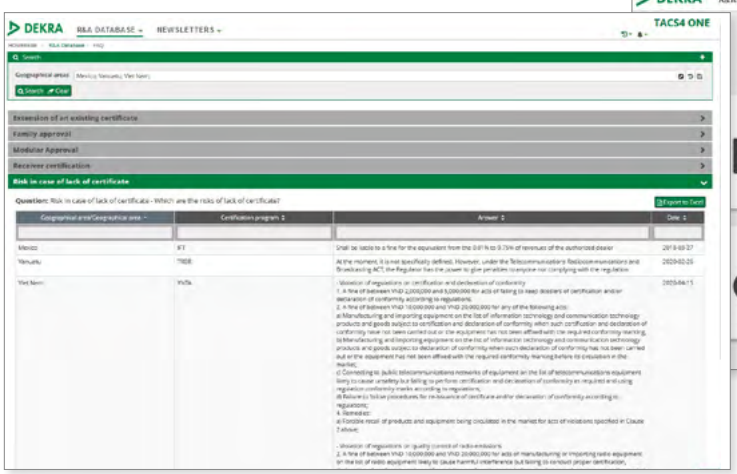
Certification Experience in over 226 geographical areas

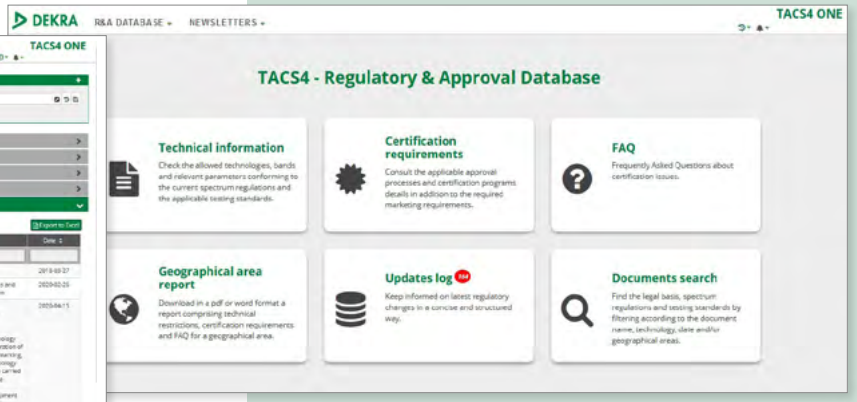
TACS4 – Regulatory & Approval Newsletter





TACS4 - Project Management System





DEKRA Testing & Certification S.A.U.
Parque Tecnológico de Andalucía
C/ Severo Ochoa, 2 & 6
29590 Málaga - Spain
Tel: + 34 952 61 98 20
wireless.global.es@dekra.com

https://www.dekra-product-safety.com/en/solutions/certification-market-access/wta