

# **KCTL**

Since 1989

*Stepping forward into  
the Global Market with*



**KCTL Inc.**

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# RELIABILITY AND PERFORMANCE TESTING

Reliability testing ensures a product works as expected in normal and unusual circumstance. Also electrical and electronic verification helps you to gauge your product's lifespan and identify the causes of failures before entering the market. KCTL provides full range of testing with full facilities. We will meet client's individual requirements and help client to improve their technology and product quality.

## Service Scope

- Rail road: EN 50155, IEC 60571, KS R 9191, KS R 9193, KS R 9213
- Defense industry: High Temperature, Low Temperature, Temperature shock, Humidity, Vibration, Shock, Salt Fog, MIL-STD-810F, MIL-STD-810G, MIL-STD-202G, MIL-STD-167-1A
- Automotive Parts: ISO16750-3, ISO 16750-4, ES 95400-10, GMW 3172, SES E 011-04
- Electrics and Electronics: IEC/KS C IEC 60068-2-1, 60068-2-2, 60068-2-14, 60068-2-38, 60068-2-78, 60068-2-6, 60068-2-27, 60068-2-31, 60068-2-64, 60255-21-1, 2, 3
- Dust Proofing Test: IEC/KS C IEC 60529 IP 1X-1P 6X
- Water Proofing Test: IEC/KS C IEC 60529 IP X1-1P X8
- Salt Spray Test: IEC/KS C IEC 60068-2-11, 60068-2-52



# RF

Radio devices basically share the limited radio spectrum resource each other and they radiate interference frequency to the air as well. When the radiated frequency interfere the operation of another radio device, the limited radio spectrum ecosystem is to be mixed up. To preserve radio spectrum ecosystem, most countries establish radio regulation and strictly manage type approval system. KCTL provides domestic and overseas radio type approval service as well.

## Service Scope

- KC(Korea), CE(Europe), FCC(USA), IC(Canada), JP-MIC(Japan), SRRRC(China) etc.

## Subjected Product

- LTE, WCDMA, Wi-Fi, Bluetooth, Zigbee, RFID/ USN, UWB etc.

## Frequency Range for testing

- 50 GHz(MAX 110 GHz)

# SAR (Specific Absorption Rate)

SAR is the unit of measurement for the amount of radio frequency absorbed by the body when using a wireless device. We provide testing to evaluate RF exposure in accordance with SAR Regulations.

## Service Scope

- KC(Korea), CE(Europe), FCC(USA), IC(Canada), JP-MIC(Japan), SRRRC(China) etc.

## Subjected Product

- Cell phone, Tablet PC, Notebook, PDA, Router, Dongle, FRS, PTT, RF Module and etc.

# EMC

- Electrics & Electronics product
- Automotive Parts Manufacturer Standards : Hyundai & KIA, SsangYong, Renault Samsung, Nissan, FORD, DAIMLER, E-Mark(ECE R,10), EU Directive(97/24/EC), CISPR 25, ISO 11452, 16750, 7637-2, 7637-3, 10605
- Railroad: KN 50, KN-51, EN50121-3-1(IEC 62236-3-1), EN50121-3-2(IEC 62236-3-2)

# MEDICAL DEVICES

KCTL, as an accredited lab by MFDS, has provided market access solution for medical device manufacturers and suppliers, To meet your concerns and standard requirements, our dedicated team with expert engineers carries out full testing that can cover safety, EMC, KOLAS, CE, CB, NRTL and etc.  
(\*MFDS: Ministry of Food and Drug Safety, KOREA)

## Service Approaches

KOLAS KS Q ISO/IEC17025 03.010 Medical Devices, MEDICAL DEVICE ACT, the Act on Testing and Inspection of Food and Drugs, Standards for Safety Testing of Medical Devices

## Service Scope

- MFDS Notification Standards for Stability Testing of Medical Devices
- IEC 60601-1(Safety), IEC 60601-1-2(EMC)
- Testing for Approval, Certification, Declaration of Medical Devices
- Testing for Self-quality control of Medical Devices
- Testing for Used-Medical devices
- Testing for IECEE CB, KOLAS, CE, NRTL, FDA, and etc.

## Subjected Product

Physical device, Medical chamber, Surgical device, Needle for syringe and Syringes, Hearing aid, Electric stimulator for medical use, Medicinal substance-producing equipment, Respiratory apparatus, Diagnostic device, Speculums for medical use, and etc.



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# SAFETY

To meet increasing requirements and overcome safety concerns, new and strict requirements are being implemented globally to address potential hazards such as electric shock, heat and fire, To sell your electrics and electronics products anywhere in the world you should prove that they meet the safety standards and requirement of target market. As a notified and accredited testing lab, KCTL carries out testing with global network and technical experts to fulfill the requirements of the international and regional safety marks.

## Service Approaches

Korea(KC): Electrics Safety Control Raw Clause 3

subject: Devices that use power of AC 30v~ or DC 42v~

For exception, Please refer to 'Electrics & Electronics Safety Control Raw attachment 1,2,3'

Europe(CE): Low Voltage Directive–Article1

subject: Devices That use power of AC 50~1000V and 75~1500V

USA(NRTL): 29 CFR Part 1910

USA(CTIA): Requirements for manufacturers supplying cells, batteries, adapters, and mobile phone to Cellular Telecommunication Industry Association(CTIA) Authorize Test

## Service Scope

- Authorized KC Test: ITE/AV/Battery
- KOLAS: Electric materials & components/ Household appliances/ Lighting appliance/ Energy Efficiency Tests
- CBTL: OFF/TRON/HOUS/BATT
- e–Standby: 22 items including PC/Monitor
- MEPS: Adaptor/charger/TV/Set–Top Box
- Samsung Electronics Authorized Test: ITE
- CTIA 1626/1725:Mobile phone
- KOREA(KC), US(NRTL), EU(CE), JAPAN(PSE), IECEE(CB)  
Global Energy Efficiency(CEC, DOE, NRCAN, AS–MEPS, EU–ERP, Energy Labelling)  
More than 200 countries worldwide tested/certified



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# GLOBAL CERTIFICATE SOLUTION

- World-wide Certification Service (220 Countries)
- Service Scope : RF, Safety, EMC, Energy Efficiency

## International Certification Info

- Asia : Malaysia(SIRIM/ST), Korea(KC), Singapore(PSB/IMDA/Enterprise Singapore), Indonesia(SDPPI/SNI), India(BIS/WPC), Philippines(NTC), Thailand(NBTC/TISI), Vietnam(MIC/VNTA), Brunei(AiTi), Japan(PSE/MIC), China(SRRC/CCC/NAL), Hong Kong(OFCA)
- North and South America : Mexico(IFETEL/NOM/CONUEE), Brazil(ANATEL/INMETRO), Argentina(ENACOM/IRAM), Chile(Subtel/SEC), Paraguay(Conatel), Peru(MTC), Uruguay(URSEC), Colombia(CRT), Jamaica(SMA)
- Africa : Kenya(CCK), South Africa(ICASA/SABS/NRCS), Tunisia(CERT), Ghana(NCA), Egypt(NTRA), Uganda(UCC), Algeria(ARPCE), Zambia(ZICTA), Morocco(ANRT)
- Europe : Russia(CU/FAC/FSS/RFC), Kazakhstan(CU), Belarus(CU/Giprosvyaz), Ukraine(Ukrsepro), Albania(TRA), Serbia(RATEL/Kvalitet), Moldova(ANTCETI)
- Mid-East : Bahrain(TRA), Israel(MOC/SII), Qatar(ictQATAR), Iran(CRA/TCI), Oman(TRA), Jordan(TRC), Lebanon(TRA), Saudi Arabia(CITC)
- Pre-Shipment : Saudi Arabia(SASO), Kuwait(KUCAS), Kenya(KEBS), Nigeria(SONCAP), Uganda(UNBS), Tanzania(Pvoc), Iraq(ICIGI)

## KC Certification Service

- KC for Electrics & Eletronics products
- MEPS, E-Standby
- KOLAS testing

## Service Scope

- Europe : CE Coc/ DoC(EMC, LVD, RED, CTR, E-mark)
- USA : FCC Certification /DoC / Verification (EMC, RF), FDA, UL
- Japan : VCCI, PSE, S-Mark
- China : CCC, SRRC, NAL
- CB, IC, RCM(C-Tick), BSMI, CU, PSB etc,

**KCTL**  
[www.kctl.co.kr](http://www.kctl.co.kr)

