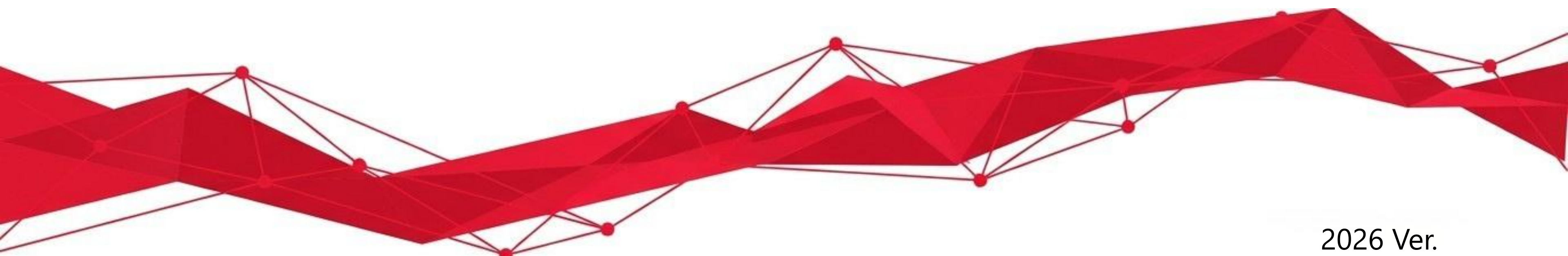




WTL International Limited

Empowering you with Electronic and Sustainable Solutions

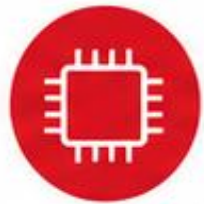


2026 Ver.

About Us



WTL was established in Shenzhen China, with regional head quarter in Hong Kong



Member unit of piezoelectric crystal of the China Electronic Components Association.



We integrate the R&D, production, sales and professional services of electronics and sustainability solutions



Our team has more than 20 years of electronics trading experience and sustainability certifications.



WTL International Limited



Mission

Made in China
Going Global



Vision

Win-win To Long
A sustainable legacy



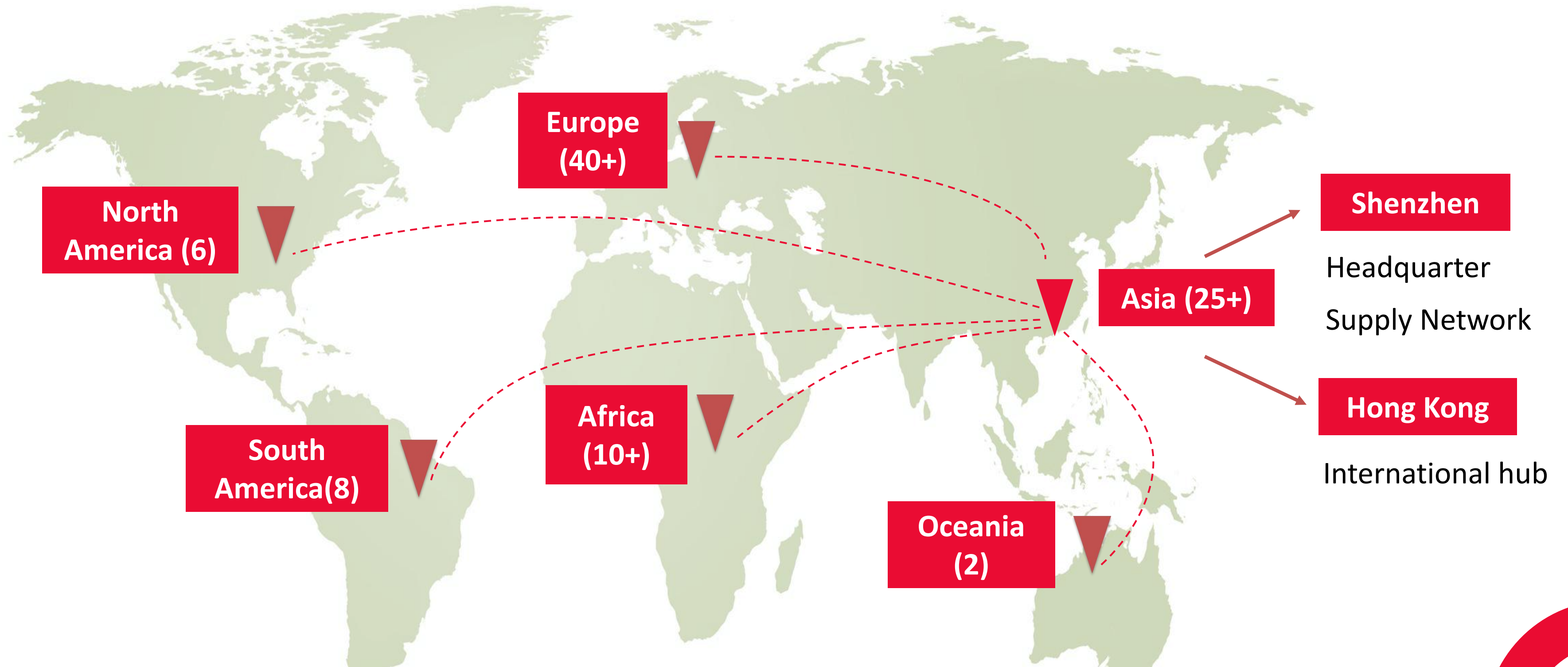
Commitment

Quality products
Global partnerships
Sustainable future



Global Footprints

We provides worldwide business covering over 130 countries, serving Fortune 500 and listed clients.



Lily Wu

Founder & CEO of WTL Group

Pioneering in quartz crystal industry, e-commerce and frequency timing solutions for more than 20 years.

✓ Foreign Trade Experience Since 2000

- 2000, degree holder, China's foreign trade trailblazer
- 2006, We Incorporated Digikey's e-commerce model
- 2012, No.1 Top Crystal Seller in Alibaba.com, Alibaba Certified B2B E-commerce Instructor
- 2023, Pioneered the Development of China's Low-Carbon Standard for Piezoelectric Crystals
- Deputy Director of the Piezoelectric Crystal Committee of Shenzhen Electronic Chamber of Commerce (SECC)
- Certified Sustainable Development Planner (CSDP)

✓ Extensive local network across Mainland China

- Manufacturing supply chain management value



华南晶体联谊会



Group Structure

Electronic Division

 **Crystals**
维拓晶振

**Crystal
Oscillator**

 **Electronics**
维拓电子

**Electronic
Products**

Sustainable Division

 **Greenovation**
维拓绿创

**Packaging
Solutions**

 **Plus**
维拓加

**GSCM ESG
Consulting**

Professional Services

 **Apricot**
興與弘

**Apricot
Hong Kong**

 **AnnMax**

**AnnMax
Hong Kong**

Our Partnership Value

Delivering comprehensive value to design houses, distributors and manufacturers.



Design Houses

From Concept to Solution

- ✓ Provide original source components and technical solutions
- ✓ Support schematic design, BOM optimization and feasibility review
- ✓ Fast sampling and reliable supply to accelerate your projects



**Your Trusted Partner in
Electronics & Sustainability**



Distributors

Build Channels, Serve End Users

- ✓ Help build channels and serve end customers efficiently
- ✓ We protect your market interests and pricing integrity
- ✓ Marketing support, product training and after-sales service



Manufacturers

Design Support, Alternative Solutions



Design capability
provides support



Alternative capability
for acrossing requests



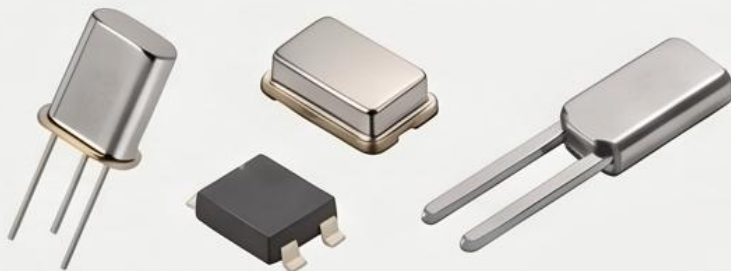
Reliable quality, cost-effective
and on-time delivery

WTL: Your Comprehensive Full Frequency Control Solution Partner

A leading provider of frequency control components, offering a one-stop shop for global telecom, automotive, and aerospace markets with high-reliability, precision-engineered solutions.

CORE PRODUCT PORTFOLIO

Quartz Crystals & RF Components



Includes standard resonators, thermistor crystals for temperature compensation, and ultra-low power tuning forks.

High-Precision Oscillators (XO)



Advanced active solutions ranging from CMOS/Differential SPXOs to high-stability TCXOs, VCXOs, and OCXOs.

VERSATILE CLOCKING SOLUTIONS

Clock Oscillators	10MHz to 2100MHz	CMOS, LVPECL, LVDS, HCSL, CML
SAW Resonators	154MHz to 1000MHz	Passive RF
Tuning Fork	32.768kHz (Standard)	Low-power RTC

RF Filters & GNSS Antennas



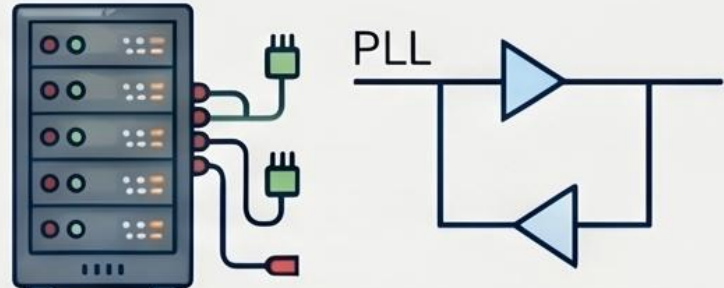
Compact SAW resonators, SAW filters for interference suppression, and high-permittivity dielectric ceramic antennas.

SPECIALIZED SOLUTIONS & CAPABILITIES

Automotive & Aerospace Excellence

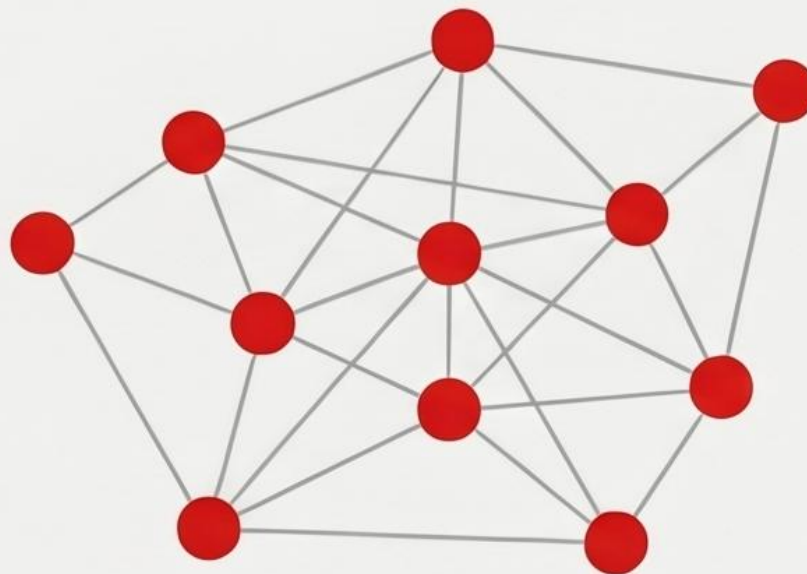


AEC-Q100/Q200 certified products and space-borne crystal oscillators for satellites and spacecraft.



Advanced Timing & Synchronization
High-end timing servers and PLL feedback control circuits for base stations and servers.

Global Manufacturing Footprint



Five production bases across nine Chinese cities integrated into a robust global supply chain.

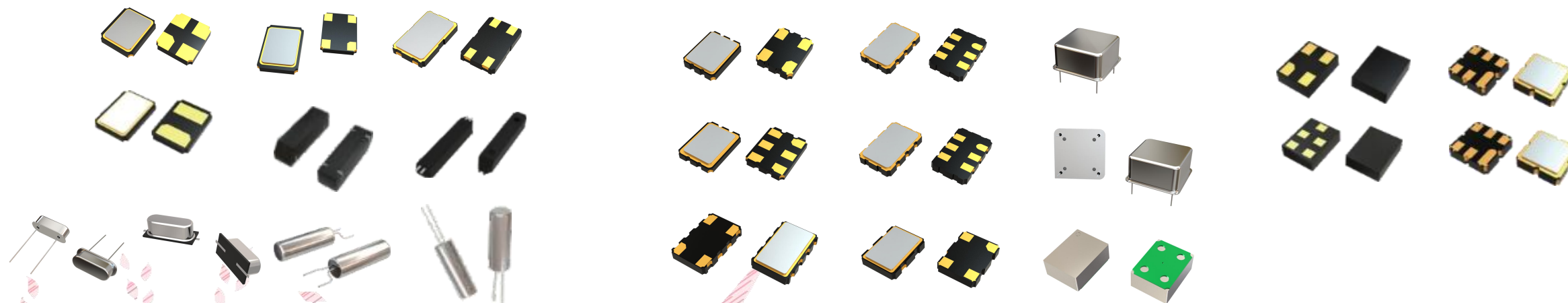


Our Key Expertise – Quartz Crystals

We offer more than **99 types of electronic components** with specifications details, covering all the common frequencies in the market, including:

- Quartz Crystal, Tuning Fork Crystal;
- Oscillators: OCXO, OSC, TCXO, VCXO;
- Saw Resonator & Filter

These products are critical for maintaining **1.precise frequency** and **2.timing stability** in a variety of applications

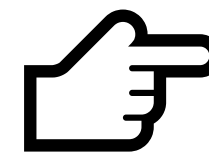


Full-Spectrum Electronics, One Integrated Ecosystem

WTL Product Catalogs



* Scan To
Download
Our E-Catalog



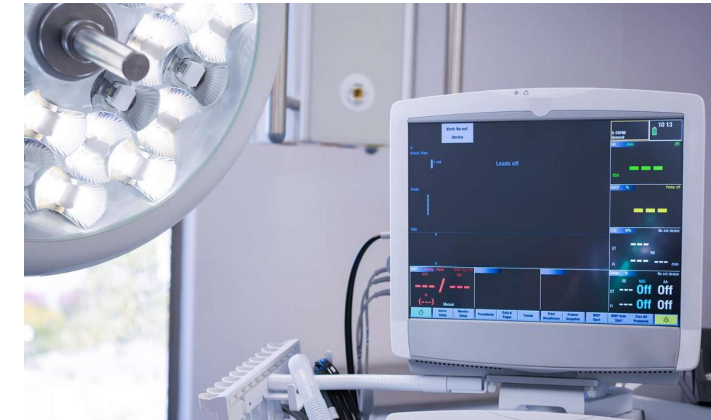
Wide Range of Industry Use Cases



IoT & Smart Home



Navigation



Medical



Automotive



Aviation



**Telecommunications
Mobile**



**Military
Applications**

and more ...



International Standards

Quality System – ISO9001, ISO14001, ISO45001, SA8000, IQC, IPQC, FQC, OQC, QA, RoHS, GRS4.0, SGS



We have replacements for all below brands



and more ...



Our Advantages

1

Quality Assurance

- **Year-long** Warranty for all our products
- **Life long** after-sales customer service

2

Industry Coverage

Our products cover wide range of **industry applications** including consumer electronics, aviation, IoT, AI, 5G base automotive, navigation etc.

3

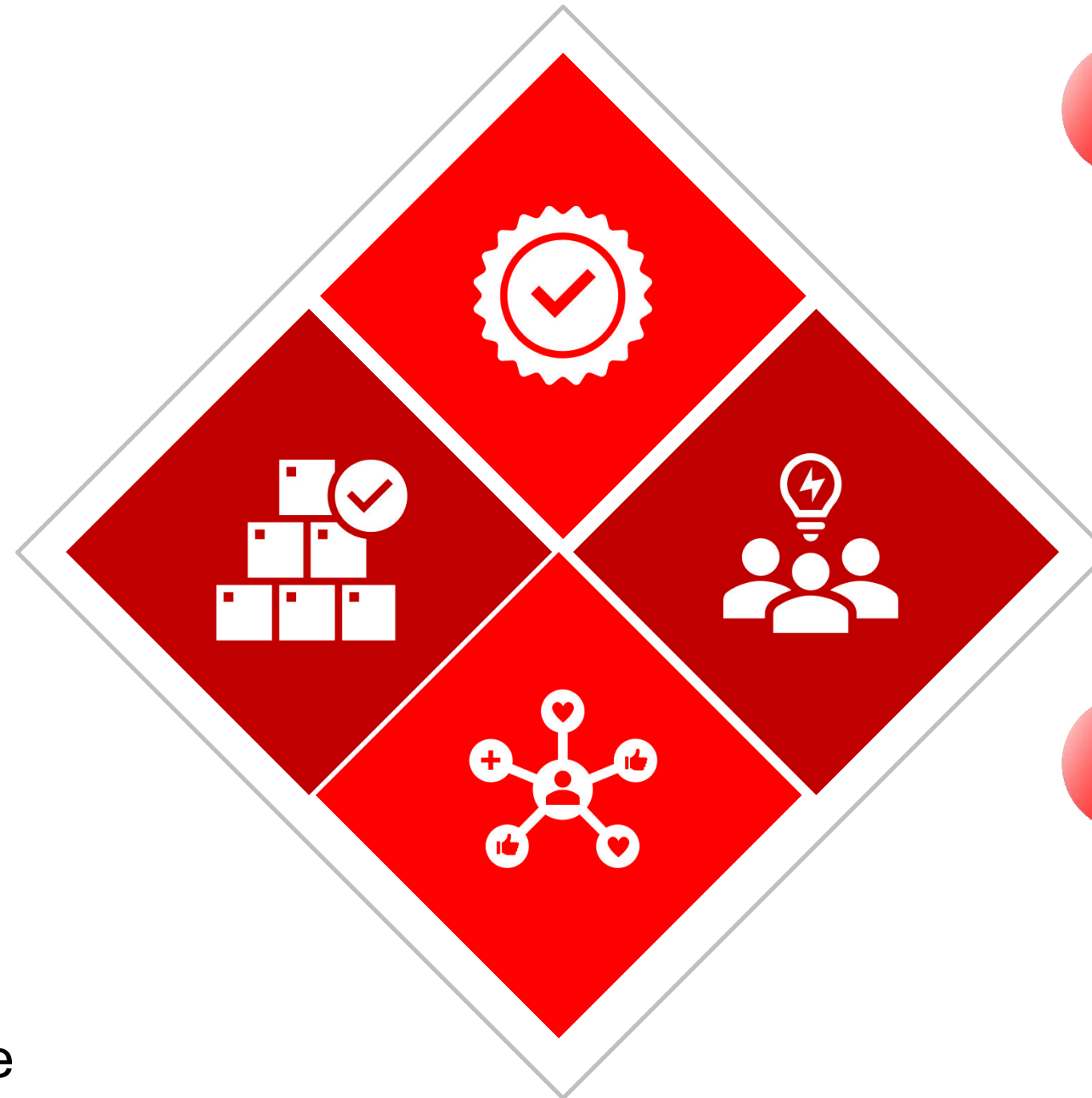
Competitive Price

Being a **factory-direct supplier**, we offer exclusive value deals
Negotiable unit price

4

Production Capacity

No matter how large your order is, our **billion level** production capacity can handle it with ease.



OUR VERTICAL INTEGRATION STRENGTH

From Crystal to Clock: The Full-Chain Expert



Upstream Core Materials

- Crystal Growth
- Wafer Structure Design & Slicing



Midstream Device Manufacturing

- DIP / SMD Assembly Lines
- Ceramic Resonator Production



Downstream High-End Products

- Crystal (Passive Resonators)
- Oscillator (Active, including TCXO, VCXO, OCXO, SOD Series)
- Full Technical Route Coverage

Production Strength & Hardware Assurance

- Cleanroom Level: **FS 209E Class 10,000**
- Intelligence Level: Upgraded to **AI Robot** Production
- Core Competitiveness: Owned Large-Scale Factories & Ample Capacity



Our Billion Level Production Capacity

Packaging	Product Category	Monthly Capacity
SMD	TC 1-8 Series	30 Million PCS
SMD/DIP	TX 1-8 Series	385 Million PCS
SMD	TS 8-9 Series	120 Million PCS
DIP	WT 8 Series	160 Million PCS
SMD/DIP	WX 1-8 Series	294 Million PCS
Glass	TG 5 Series	3 Million PCS
	Total	992+ Million PCS

- Our large-scale manufacturing strength **(*almost 1 billion)** ensures reliable order fulfillment.
- No matter how large your order is, our comprehensive production capacity matrix can handle it with ease.

Unlocking 100 Million+ SKUs

100,000,000+

Available SKUs

Our Product Scope

99+ Series: 30 million+ SKUs

Example, TX3, WX6, WX7 Series:

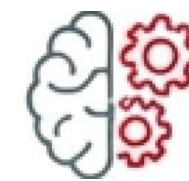
Already 1 million SKUs

Full Range Coverage:

Consumer electronics to industrial grade.



IoT



AI



5G Base
Stations



Automotive



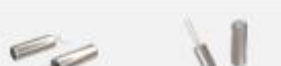
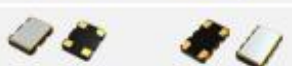
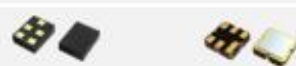
Aviation



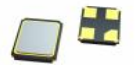
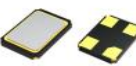
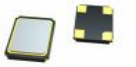
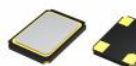
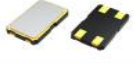
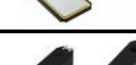
Navigation

Dynamic SKU Management: Selected standard products for physical stocking vs. **full database access** for long-tail inquiries.

Our Product Matrix: Full-Scenario Coverage

Passive Components	Quartz Crystal	Model	Package Size (mm)	Frequency Range	Load Capacitance	Operating Temperature	Product display
		Crystal (SMD)	SMD 1210~SMD 7050	6.000~110.000MHz	8-20pF or Specify	-20℃~+70℃ -40℃~+85℃ Or Specify	
		Crystal (DIP)	HC-49S/HC-49SMD	3.200~100.000MHz	8-20pF or Specify		
		Tuning Fork (SMD)	SMD 1210~SMD 6914	32.768kHz	6pF, 7pF, 9pF, 12.5pF	-40℃~+85℃	
		Tuning Fork (DIP)	DIP 2*6 - 3*8	30~350kHz	6~12.5pF, or specify	-20℃~+70℃ -40℃~+85℃	
Active Components	Oscillator	Model	Package Size (mm)	Frequency Range	Output Mode	Operating Temperature	
		Oscillator	SMD 2016~SMD 7050 Full/Half Size	32.768KHz; 1.000~1500.000MHz	CMOS、LV-PECL、LVDS、HCSL、CML	-20℃~+70℃ -40℃~+85℃ Or Specify	
		VCXO	SMD 3225~SMD 1490	1.500~1500.000MHz	CMOS、LV-PECL、LVDS、		
		TCXO	SMD 2016~SMD 7050	5.000~1500.000MHz	CMOS、Clipped Sine Wave		
		OCXO	SMD 9.7*7.5~25.4*22.1 DIP 20.3*12.7~36.3*27.2	5.000~40.000MHz	Rectangular、Sine Wave		
SAW Filters	SAW	Model	Package Size (mm)	Frequency Range	Insertion Loss	Operating Temperature	
		Resonator	SMD 2016~5050	154~1000MHz	1.5dB,3.0dB or Specify	-40℃~+85℃	
		Filter	SMD 1109~5050	100~2605MHz	1.0dB,3.0dB or Specify	-40℃~+85℃	

WTL series spec VS other Brand

WTL series spec VS other Brand											
Picture	Package	WTL Series	Abracon	HKC	Jauch	Murata	Kyocera	EPSON	Seiko	Citizen	ACAL/ACT
	2.0*1.6/4/SMD	TX1	ABM12/ABM11	CQ	JXS21	XRCGB	CT2016DB	FA2016AN/ FA-128			ACT 2016SMX-4/ ACT 2018SMX-4
	2.5*2.0/4/SMD	TX2	ABM10	CK	JXS22	XRCHH	CT2520DB	FA-20H			ACT 2205SMX-4/ ACT 2208SMX-4
	3.2*2.5/4/SMD	TX3	ABM8G	C7	JXS32	XRCJH	CX3225SB	TSX-3225/ FA-238/ FA-238V		CS325S	ACT 325SMX-4/ ACT 3225S -SMX-4
	5.0*3.2/4/SMD	TX5	ABM3B/ABM3C	CA	JXS53	XRCLH	CX5032SB				ACT MESA53/ ACT 531SMX-4
	7.0*5.0/4/SMD	TX7	ABMM	C5	JXS75						ACT 750SMX-4
	1.6*1.2/4/SMD	TX8		CT	JXS11	XRCFD/X RCMD		FA-118T			ACT 1016 SMX-4
	5.0*3.2/2/SMD	TG5	ABM3	CE	JXG53P2		CX5032GA				
	HC-49/S	WX6	ABL	9S	SS3					HC-49 / U-S	ACT HC49US Standard
	HC-49/SMD	WX7	ABLS2	SS S2 S3	SMU2 SMU4					HCM49	ACT HC49US SMX
	2.0*1.2/2/SMD	TS9	ABS06L	MQ	JTX210		ST2012SB	FC-12D	SC-20T		
	3.2*1.5/2/SMD	WX1	ABS07	M8	JTX310		ST3215SB	FC-135R	SC-32T	CM315D	
	6.9*1.4/4/SMD	WX4	ABS13	M6	SMQ32SN			MC146	SSP-T7-F	CM130	
	3.8*8.0/4/SMD	WX3	ABS25	M3	SMQ32SL			MC306		CM200C	
	2*6/2/DIP	WX2	AB26T	2T	MMTF32			C-002RX	VT-200-F	CFS-206	

Strategic Logistic Partnership



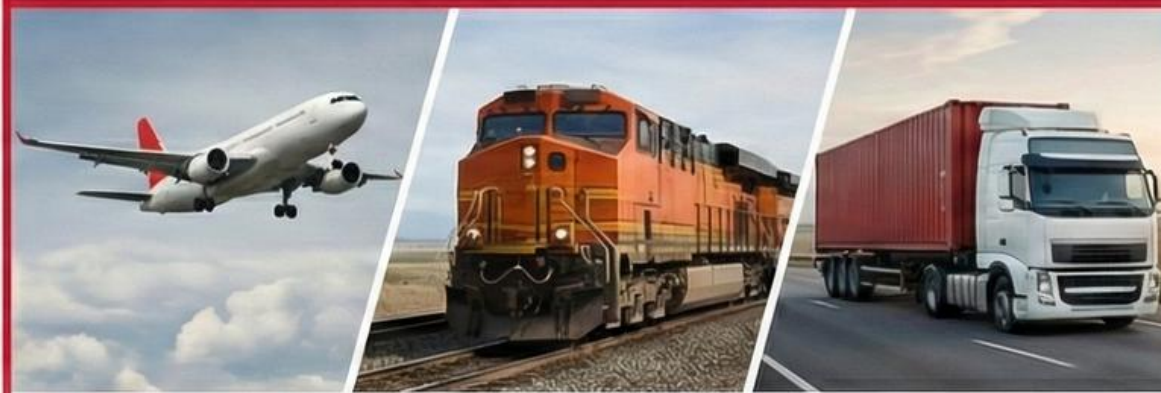
Monthly Collaborative Planning with Partner



- Align on forecasts and execute consolidated monthly ordering.



Integrated Logistics Execution



- Leverage Partner's network for seamless multi-modal (sea, land, air) transport.



Flexible Fulfillment Model



- Support both bulk shipments and split retail deliveries as needed.

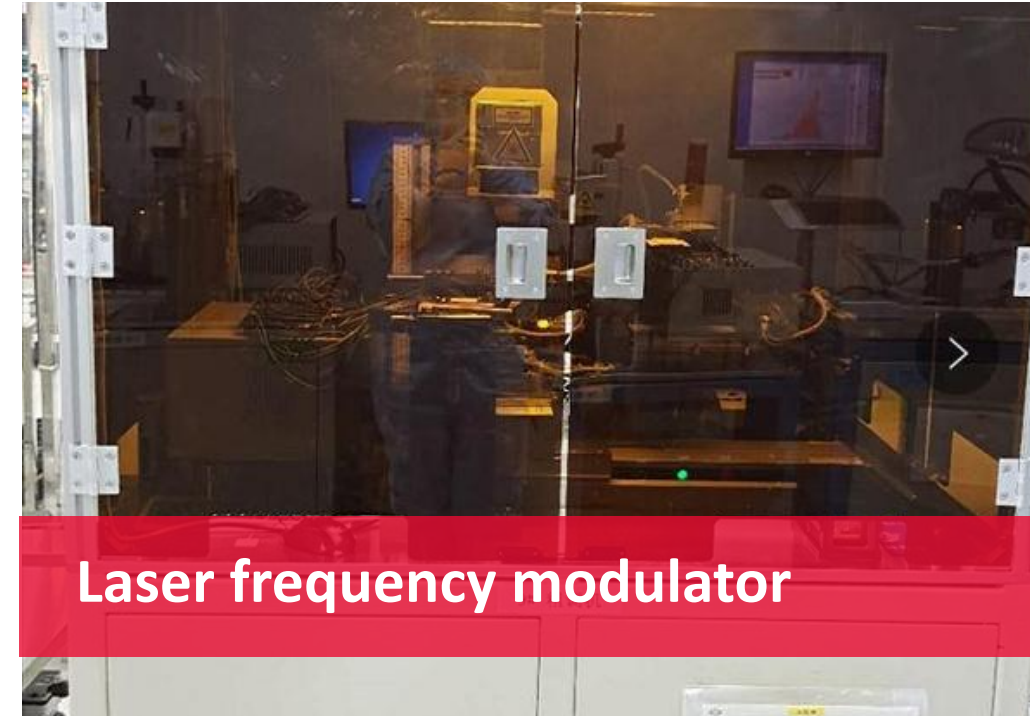
Our goal: Logistic cost optimization for Partners.



Our Technical Solutions



Parallel seam welding machine



Laser frequency modulator



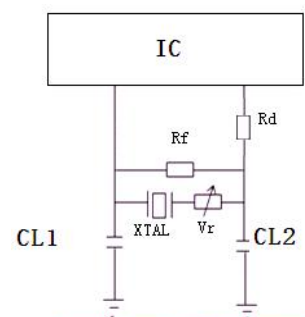
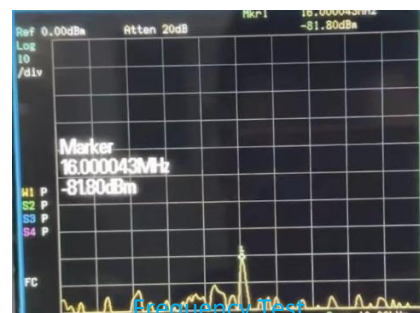
Automated welding line



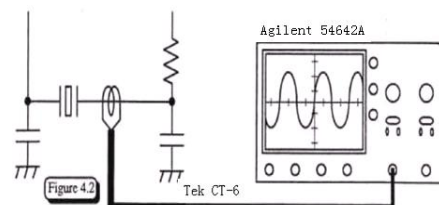
Spray painting machine

Technical Capabilities and Product Trainings

PCB VS CRYSTAL Matching Test

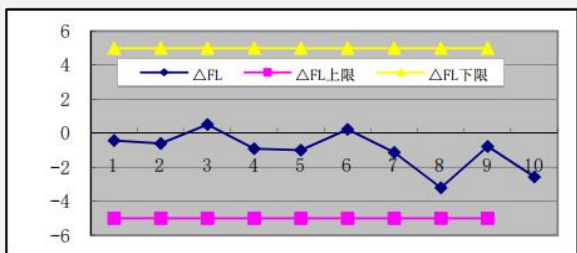


Negative impedance test diagram
负性阻抗测试示意图



Drive level 测量示意图

Reliability Test



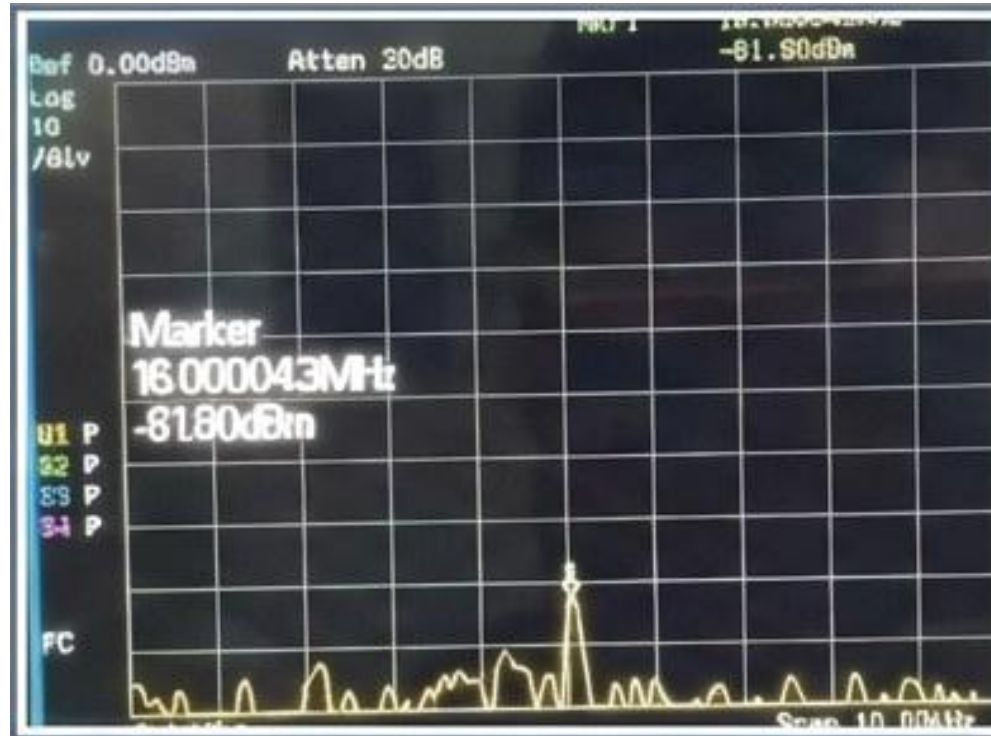
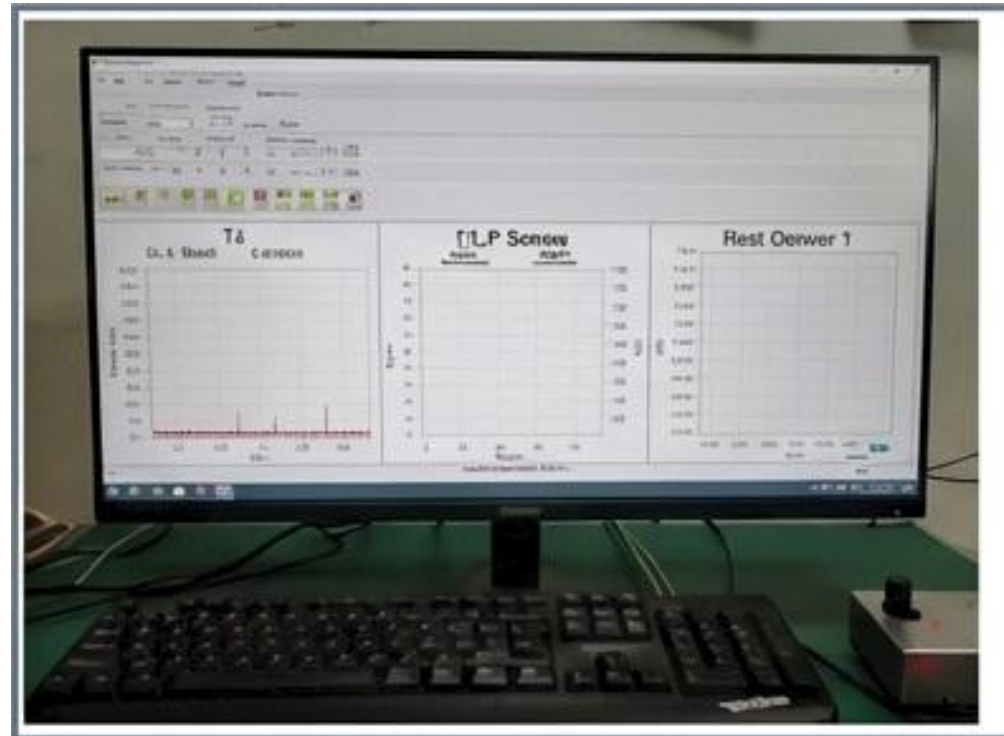
- **Test item: free drop.** -Equipment: drop table, 30mm thick hardboard, 250B.
- **Test item: low frequency vibration.** -Equipment: vibration test bench /250B.
- **Test item: welding heat resistance.** -Equipment: reflow welder, 250B
- **Test item: high and low temperature test.** - Equipment: 250B
- **Test item: weldability.** -Equipment: soldering furnace
- **Test item: constant humid heat.** -Equipment: programmable temperature and humidity test chamber /250B
- **Test item: Aging.** -Equipment: Aging box, 250B

Training/Seminar/Events

- On-site product Training
- Online Public Seminar
- Event cohost
- Travelings upon request

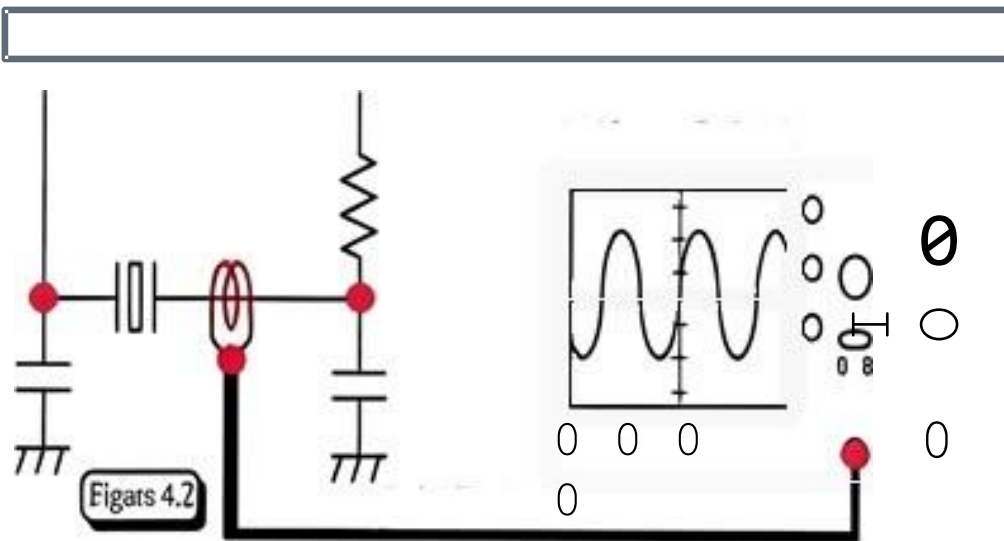


Customer Support: Quality Assurance & Reliability Testing



Our Testings

- **Mechanical:** Free Drop Test (30mm hardboard), Low Frequency Vibration.
- **Thermal:** High/Low Temperature Cycling, Reflow Welding Heat Resistance.
- **Electrical:** Drive Level Measurement, Negative Impedance Testing.



Project Management and Full Lifecycle Service

From **Design-in** to **EOL(end of life)**, Support **BOM** (Bill of Materials) sourcing. An end-of-life (EOL) notice will be issued **at least 12 months in advance** prior to product discontinuation.

Customer design-in selection,
Provide free samples and
technical support.

01

Guarantee long-term
supply and provide EOL
warnings.

03

Mass production:
Ensure production capacity,
quality, and delivery stability.

02

Products upgrades and
replacement supports for
sustainable development.

04



How we can support you?

Diagnostics

Diagnostics on different clients' cases with precise solutions and hands-on guidance



Logistics

Global courier operations
Support logistics integration in China's business environment



365 Days

- Online e-commerce English support
- Engineer for Technical Issues and new design



Reporting

Full Reliability test
8D report for complain



WTL's Team



Lily Wu
Founder and
CEO of WTL



Saturn Wu
Sales Director of
Crystal Division



Silver Yuan
Group Product
Director



Ryden Shen
Field Application
Engineer



Ben Ho
Senior Manager
Enterprise Development



Ivy Lam
Senior Manager
Sustainability Solution



Alfred Wong
Assistant E-commerce
& Marketing Manager



Let's Build the Future of Frequency Supply.

Tel / WhatsApp: +852-3460 5206

Email: enquiry@wtlplus.com

WTL International Limited

