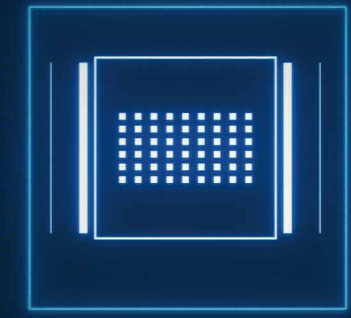




GEC-CHIP



Geo-chip Technology Co., Ltd.

Geo-chip Inc.

Geo-chip Inc., founded in 2018, is a leading designer and provider of high-performance radio frequency (RF) and analog chips. Headquartered in Hangzhou, Zhejiang Province, with additional divisions in Shanghai and Shenzhen, the company specializes in the research, development, and mass production of RF integrated circuits. Geo-chip Inc. is committed to becoming a global leader in the design and supply of advanced analog and RF solutions. Over the past six years, the company has built a robust portfolio with three primary product lines: RF transceivers, RF front ends, and analog signal chains. Geo-chip's products serve a broad range of industries, including wireless communications, industrial electronics, and the Internet of Things (IoT). With strong R&D and production capabilities, the company continues to drive innovation in the field of analog and RF technology.

over **70%**

Research and development personnel account for the company's total workforce.

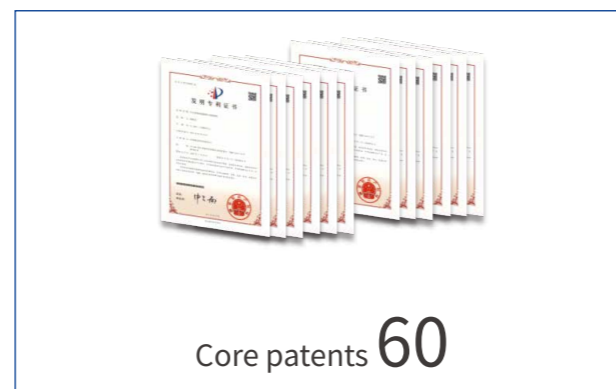
over **80%**

Percentage of Master's/PhD Holders in the R&D Team

10-20 years

Team experience in chip R&D and mass production

INTELLECTUAL PROPERTY



The TRX, RFFE and ANA products of Geo-chip possess 100% independent intellectual property rights. Currently, we have reserved more than 60 invention patents at home and abroad, over 50 integrated circuit layout designs, and the total number of intellectual property reserves exceed 200 items, forming a high-quality intellectual property cluster based on product advancement matching and technology evolution tracking. Meanwhile, Geo-chip has also reserved more intellectual property rights related to high-end analog radio frequency chips in the fields of 5G wireless communication, the Internet of Things and industrial electronics.

Product Lines

Focus on high-performance analog and radio frequency chips.

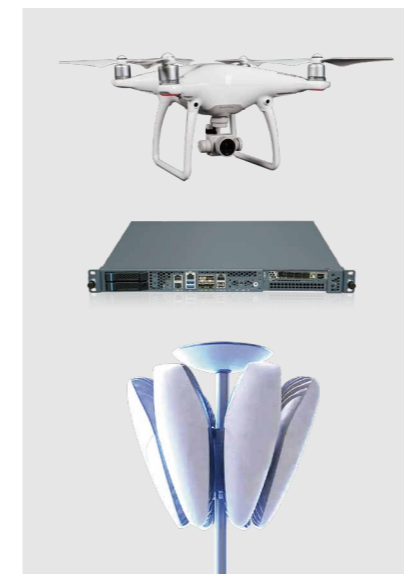
TRX

- GC080X: Sub-7G 2T2R
- GC0851: 5G 1T2R
- GC0861: Sub-7G

Advantages

- Ultra-low power consumption, wide frequency range, and high bandwidth.
- Highly integrated and reconfigurable design, simplifying applications across multiple scenarios.
- Compact chip size.

Applications



4G/5G Small Cells, Repeater, High-performance wireless video transmission devices, private network/special communication equipment, and Internet of Things base station devices.

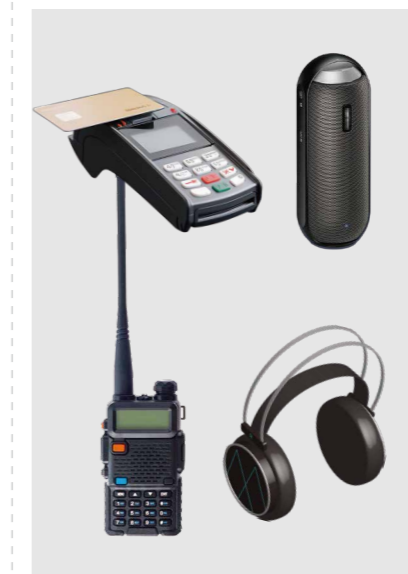
RFFE

- GC11XX: Multi-in-one FEM
- GC06XX: PA

Advantages

- Low-power silicon-based CMOS technology with performance on par with III-V group RFFE products.
- Unique protective circuit design for improved reliability and durability.
- Significant cost reduction compared to mainstream competing products, offering an affordable solution without sacrificing performance.

Applications



Smart homes, industrial automation, smart meters, wireless sensor networks, wireless audio systems, smart energy networks, RC toys, etc.

ANA

- GAD2/9XXX: High-resolution, high-speed Pipeline ADC
- GAD7/8XXX: High-resolution, low-speed SAR ADC
- GREFXXX: High-resolution, Voltage Reference

Advantages

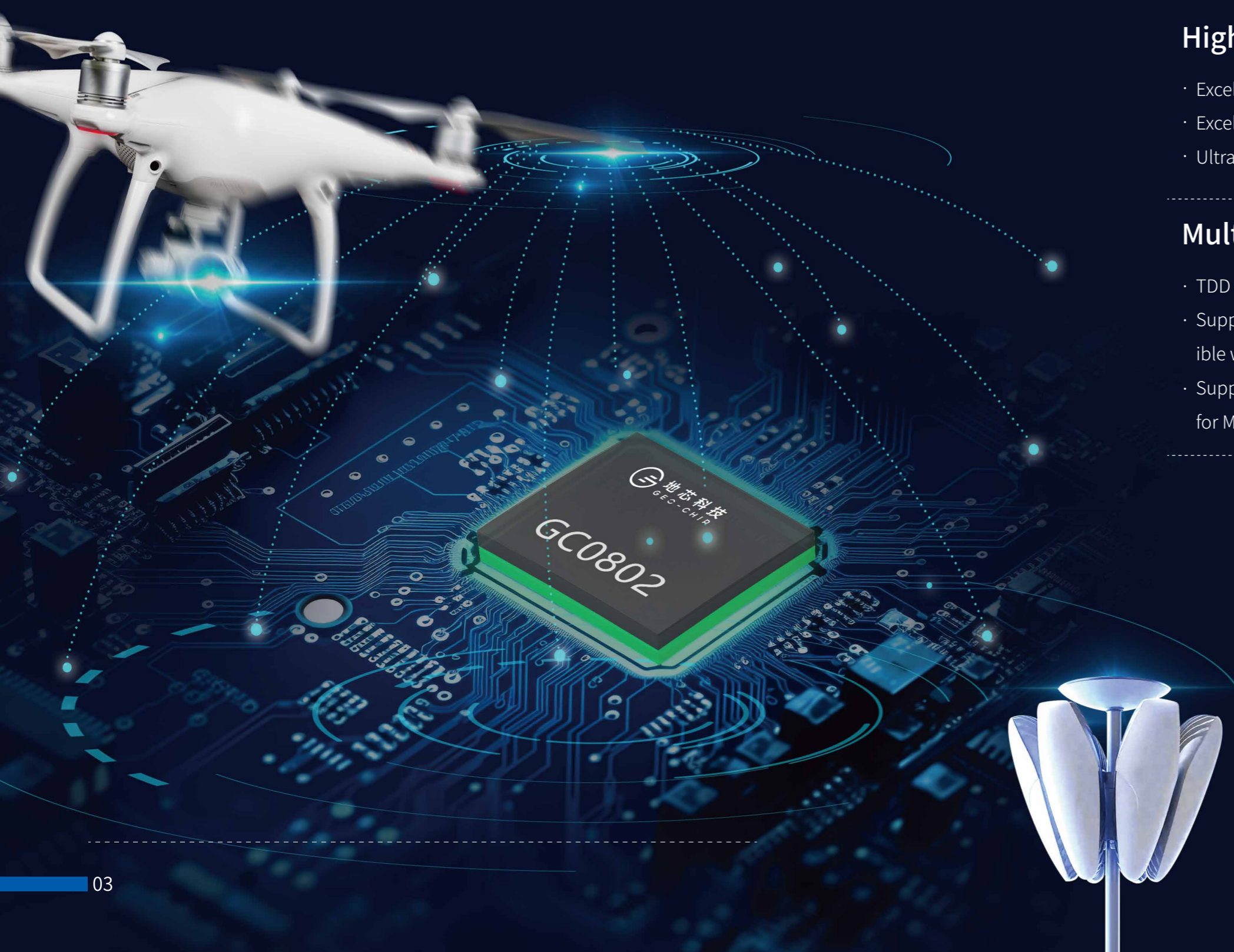
- Fully compatible with competing products, enabling simplified design.
- Enhanced performance and more flexible interfaces.
- Batch-verified under rigorous application scenarios, ensuring higher reliability.

Applications



Infrared thermal imaging, industrial measurement and control, optical communication, instruments and meters, medical equipment, electric power and electrical engineering.

TRX Product Line



Ultra-Wideband

- UWB operating frequency: 30MHz–6.125 GHz, covering most communication bands
- Supports dual-channel bandwidth: 12 kHz–100 MHz

High Performance & Ultra-Low Power

- Excellent TX EVM: < -40dB
- Excellent RX Sensitivity: NF down to 3dB
- Ultra-Low Power: <1.2W (2T2R FDD LTE20M)

Multi-scenario & Flexible Configuration

- TDD & FDD configurable, supports LVDS/CMOS interfaces
- Supports chip virtual partitioning with analog IQ I/O, compatible with more baseband chips
- Supports cascading with multi-chip synchronization (MCS), for MIMO, phased array and other multi-chip applications

Roadmap

MAIN PRODUCTS MP ES/CS In Dev.

2023 and earlier

2024

2025

2026

Broadband

GC0801

2T2R
30M-6GHz
12k-60MHz
TX EVM: ≤ -40 dB
NF@800MHz=3dB
LVDS/CMOS
P2P: AD9361

GC0802

2T2R
200M-5GHz
12k-100MHz
TX EVM: ≤ -40 dB
NF@800MHz=3dB
LVDS/CMOS
P2P: AD936X

GC0802H

2T2R
30M~6.125GHz
12k-100MHz
TX EVM: ≤ -40 dB
NF@800MHz=3dB
LVDS/CMOS
P2P: AD936X

GC0802L

1T1R
30M~6GHz
12k-100MHz
TX EVM: ≤ -40 dB
NF@800MHz=3dB
LVDS/CMOS
P2P: AD936X

GC0803

2T2R
200M-3.8GHz
12k-60MHz
TX EVM: ≤ -35 dB
NF@800MHz=3dB
LVDS/CMOS
P2P: AD9363

GC0851

1T2R
5G REDCAP Bands
1.4M-20MHz
Analog IQ
P2P: None

GC0861

Dual Channel Mixer
Mixer Frequency: 30M-7.1GHz
LO Frequency :500M-5GHz
Up to 100MHz
P2P:None

GC0816

2T2R+ORX TDD/FDD
75MHz-7.125GHz
Up to 400MHz
Analog IQ
P2P: None

GC0862

Dual Channel Mixer
Mixer Frequency :30M-14GHz
LO Frequency:500M-5.5GHz
Up to 100MHz
P2P:None

GC0501

Fully Integrated Fractional-N PLL
Dual Channel
Output Frequency :500M-5GHz
Programmable LO Dividing Ratio
Suitable for analog video transmission systems
P2P:None

GC0502

Fully Integrated Fractional-N PLL
Dual Channel
Output Frequency :5G-10GHz
Programmable LO Dividing Ratio
Suitable for analog video transmission systems
P2P:None

GC180X

Coming soon

Narrowband

PRODUCT SELECTION GUIDE

TRANSCEIVER

Part No.	Freq. (Hz)	Bandwidth	TX EVM (dB)	T/R No.	Interface	Status	Compatible with
GC0801	30M-6G	12k-60M	-40	2T2R	LVDS/CMOS	MP	A*9361
GC0802	200M-5G	12k-100M	-40	2T2R	LVDS/CMOS Analog IQ	MP	—
GC0802H	30M-6.125G	12k-100M	-40	2T2R	LVDS/CMOS	MP	—
GC0802L	30M-6G	12k-100M	-40	1T1R	LVDS/CMOS	MP	—
GC0803	200M-3.8G	12k-60M	-35	2T2R	LVDS/CMOS	MP	A*9363
GC0851	30M-5G	1.4M-20M	-40	1T2R	Analog IQ	MP	—
GC0816	75M-7.125G	Up to 400M	-40	2T2R+ORX TDD/FDD	Analog IQ	ES	—

MIXER

Part No.	Mixer Freq. (Hz)	LO Freq. (Hz)	Bandwidth	EVM (dB)	Channel No.	Interface	Status
GC0861	30M-7.1G	500M-5000M	Up to 100M	-40	2	RF Differential	MP
GC0862	30M-14G	500M-5.5G	Up to 100M	-30	2	RF Differential	MP

PLL

Part No.	Output Freq (Hz)	Channel No.	Interface	Status
GC0501	500M-5G	2	RF Differential	MP
GC0502	5G-10G	2	RF Differential	MP

RFFE Product Line

Self-developed Innovative Technology

- CMOS monolithic integrated architecture uses fewer on-chip inductors, achieving ultimate RF performance while greatly reducing chip area.
- Exclusive ESD protection circuit design, ESD (HBM) >8000V, far exceeding similar products at home and abroad.

Complete Product Range

- Covers most common IoT frequency bands from 170M to 6G, supporting both cellular IoT and short-to-medium range IoT applications such as Zigbee, BT/BLE and WiFi.
- Diverse product forms, flexible structure, meeting all selection requirements.

Ultra-Low Power & Superior Cost Advantage

- Monolithic integration, small chip size, higher cost efficiency
- nA-level ultra-low power sleep current and ultra-low insertion loss (with Bypass), effectively reducing total power consumption of IoT terminals

Stable Supply & Efficient Service

- Stable domestic & international supply chains
- Strong local R&D and application teams with highly efficient application and service support.

Roadmap

MAIN PRODUCTS
MP
ES/CS
In Dev.

2023 and earlier

2024-2025

Sub-G
 LoRa
 Wi-SUN
 RF433
more

GC0631

3*3 mm
 PA, 400-510MHz
 0.5~5.0V, 31.5dBm@3.6V
 P2P: URPM6331

GC1109

3*3 mm
 PA+LNA+SW, 860-930MHz
 0.5~4.0V, 30dBm@3.3V
 P2P: SKY66423

GC1117

4*4 mm
 PA+SW, 169-170MHz
 0.5~4V, 29.7dBm @ 3.6V
 P2P: SKY66121

GC0609

2.5*2.0mm
 PA, 800-960MHz
 0.5~4.2V, 31.5dBm@4V
 P2P:—

GC1131

3*3 mm
 PA+LNA+SW, 450-470MHz
 0.5~5.0V, 31dBm@3.3V
 P2P:—

GC1123

4*4 mm
 PA+SW, 223-235MHz
 0.5~4.0V, 29.7dBm @ 3.6V
 P2P: SKY66121

2.4 G
 BT
 BLE
 Zigbee
more

GC1101

3*3 mm
 PA+LNA+SW
 1.8~3.6V, 22.5dBm@3.3V
 P2P: RFX2401C

GC1103

3*3 mm
 PA+LNA+SW+Bypass
 1.8~3.6V, 22dBm@3.3V
 P2P: RFX2401C

GC1102

3.5*3.0mm
 PA+LNA+SW+Filter
 3.0~3.6V, 23dBm@3.3V
 P2P: SKY66112

GC1108

3.3*3.0mm
 PA+SW+Filter
 3.0~3.6V, 10dBm@3.3V
 P2P: SKY66110

GC1105

3*3mm
 PA+LNA+SW+Filter
 3.0~3.6V, 30dBm@3.3V
 P2P: RFX2401C

Roadmap (Continued)

MAIN PRODUCTS MP ES/CS In Dev.

2023 and earlier

2024-2025

Multi-band
2G/3G/4G
NB-IoT
Cat.1
...more

GC0658

2.5*2.0 mm,
PA, 824-915MHz
0.5~4.2V, 27dBm@2.4V
P2P: RF3515/8

GC0643

4*4 mm
MMMB PA
B1/3/5/8/34/39/40/41
0.5~4.6V, 31.5dBm@3.4V
P2P: OC9743-62

GC0633

3*3 mm
MMMB PA
B34/39/40/41
0.5~4.6V, 31.5dBm@3.4V
P2P: —

PRODUCT SELECTION GUIDE

Part Number	RF Frequency (MHz)	Form	Vcc Typ. (V)	Vcc Range (V)	Vbat Range (V)	Tx Psat (dBm)	Tx Gain (dB)	Bypass IL (dB)	Rx Gain (dB)	Rx NF (dB)	Package (mm x mm)	Compatible with	Status
GC1101	2400-2525	TRFEM	3.3	1.8-3.6	—	22.5 @3.3V	25	—	15	2.9	QFN-16 (3 x 3)	RFX2401C	MP
GC1102	2400-2485	TRFEM	3.3	3.0-3.6	—	23 @3.3V	23	1	15	2.5	LGA-22 (3.5 x 3)	SKY66112	CS
GC1103	2400-2525	TRFEM	3.3	1.8-3.6	—	22 @3.3V	25	2	12	3	QFN-16 (3 x 3)	RFX2401C	MP
GC1105	2400-2485	TRFEM	3.3	3.0-3.6	—	30 @3.3V	27	—	15	2.5	LGA-16 (3 x 3)	RFX2401C	CS
GC1108	2400-2485	TXFEM	3.3	3.0-3.6	—	10 @3.3V	8.5	2.5	—	—	LGA-20 (3.3 x 3)	SKY66110	CS
GC1109	860-930	TRFEM	4.0	0.5-4.0	2.8-4.2	30 @3.3V	30	1	17	2	LGA-16 (3 x 3)	SKY66423	MP
GC1117	169-170	TXFEM	3.6	0.5-4.0	1.8-3.6	29.5 @3.6V	40	0.4	—	—	LGA-16 (4 x 4)	SKY66121	CS
GC1123	223-235	TXFEM	3.6	0.5-4.0	1.8-3.6	30 @3.6V	38	0.4	—	—	LGA-16 (4 x 4)	SKY66121	CS
GC1131	450-470	TRFEM	3.6	0.5-5.0	2.8-4.2	31 @3.3V	30	1	15	2	LGA-16 (3 x 3)	—	MP
GC0609	800-960	PA	4.0	0.5-4.2	1.8-3.6	31.5 @4V	29	—	—	—	LGA-10 (2.5 x 2)	—	MP
GC0631	400-510	PA	3.6	0.5-5.0	1.8-3.6	31.5 @3.6V	30	—	—	—	LGA-10 (3 x 3)	URPM6331	MP
GC0633	B34/39/40/41	MMMB-PA	3.4	0.5-4.6	1.8-4.6	31.5 @3.4V	28	—	—	—	LGA-30 (3 x 3)	—	CS
GC0643	B1/3/5/8/34/39/40/41	MMMB-PA	3.4	0.5-4.6	1.8-4.6	31.5 @3.4V	28	—	—	—	LGA-30 (4 x 4)	OC9743	MP
GC0658	824-915	PA	2.4	0.5-4.2	1.8-3.6	27 @2.4V	27	—	—	—	LGA-10 (2.5 x 2.0)	RF3515/8	MP

ANA Product Line



Complete ADC Series

- High-speed Pipeline ADC: 12–14bit sampling precision, 10M–500M sampling rate, 1/2/4/8-channel series
- High-precision SAR ADC: 12–16bit sampling precision, 100K–6M sampling rate, 1/2/4/8-channel series

Pipeline ADC: Industry-leading Performance

- Innovative Pipeline Series with >250M sampling rate
- 14bit/125M Pipeline products: Technologically leading domestic peers
- Performance on par with global top standards

SAR ADC: Good Compatibility, Ultra-Low Power

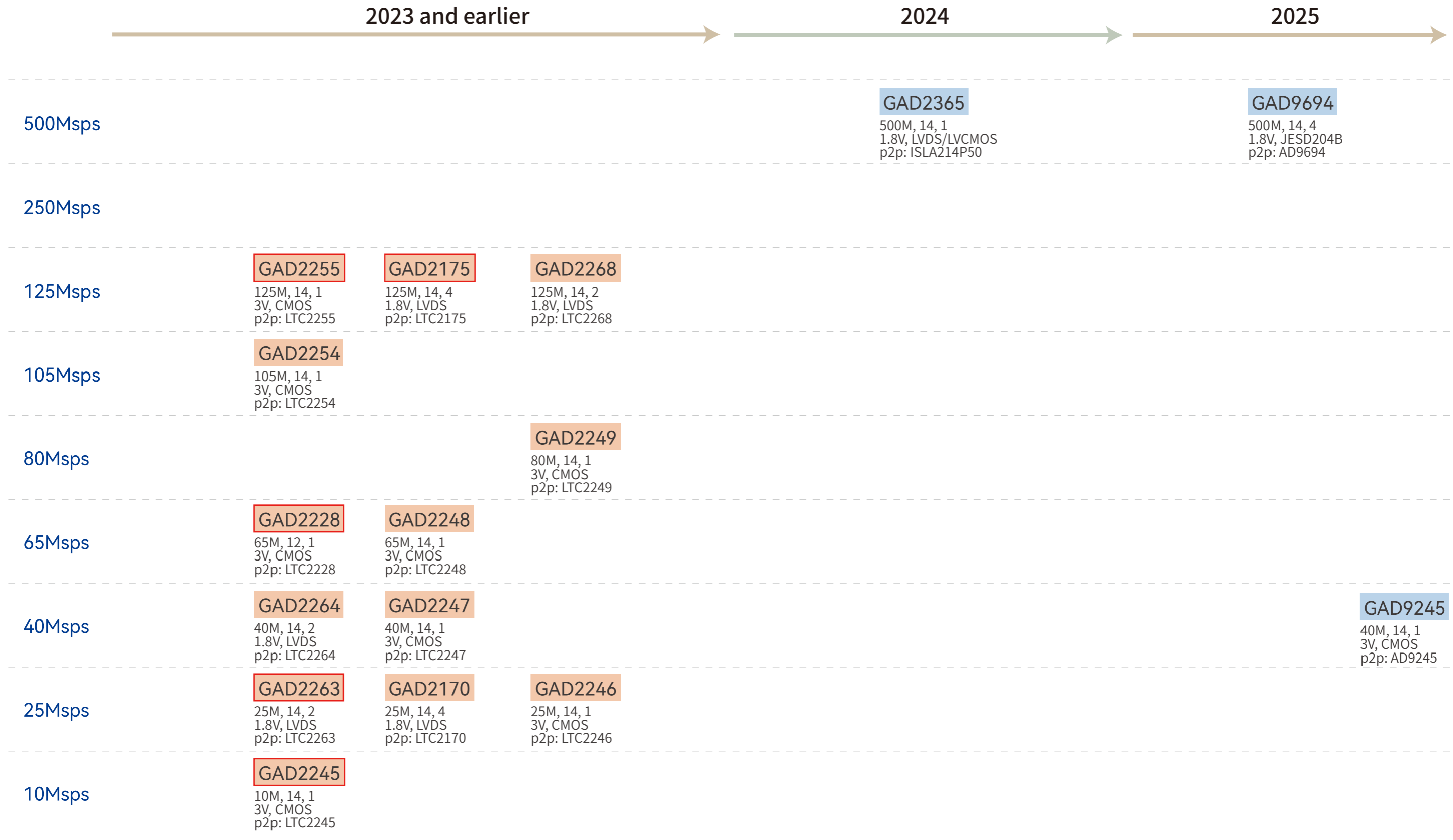
- 16Bit/100Ksps, power consumption as low as 1.8mW/ch, over 20% lower than leading international competitors
- Mature product series compatible with ADI/LTC, TI, simplifying design flow, no hardware or PCB layout changes for replacement

More Comprehensive Strength Advantages

- Sustained R&D investment, covering more markets & applications
- Stable domestic & international supply chains
- High-reliability products, batch-verified in harsh scenarios
- Distinct cost advantages

Roadmap-for Pipeline

MAIN PRODUCTS
MP
ES/CS
In Dev.



Roadmap-for SAR

MAIN PRODUCTS MP ES/CS In Dev.

2023 and earlier



6Msps

1Msps

GAD7980

1M, 16, 1
2.5V, SPI
p2p: AD7980

500Ksps

GAD7699

500K, 16, 8
5V, SPI
p2p: AD7699

250Ksps

GAD7689

250K, 16, 8
3.3~5V, SPI
p2p: AD7689

200Ksps

100Ksps

GAD7283

100K, 12, 1
2.7~5.25V, SPI/SSI
p2p: AD7683

PRODUCT SELECTION GUIDE

Part Number	Architecture	Channel	Sample Rate (sps)	Resolution (bit)	Power (typ.) (mW)	Vcc (V)	Input Type	INL (LSB)	DNL (LSB)	SNR (dB)	SFDR (dB)	Data Output Interface	Package	Compatible with	Status
Pipeline ADC															
GAD2170	Pipeline	4	25M	14	200	1.8	Difference	±1.5	±0.4	74.2	90	LVDS	LGA52	LTC2170	MP
GAD2174	Pipeline	4	105M	14	636	1.8	Difference	±1.5	±0.5	75.5	80	LVDS	LGA52	LTC2174	MP
GAD2175	Pipeline	4	125M	14	636	1.8	Difference	±1.5	±0.3	74	90	LVDS	LGA52	LTC2175	MP
GAD2226	Pipeline	1	25M	12	72	3	Difference	±1.5	±0.3	69.8	86	CMOS	QFN32	LTC2226	MP
GAD2228	Pipeline	1	65M	12	240	3	Difference	±1.5	±0.5	73.5	89	CMOS	QFN32	LTC2228	MP
GAD2245	Pipeline	1	10M	14	60	3	Difference	±1.5	±0.5	74	90	CMOS	QFN32	LTC2245	MP
GAD2246	Pipeline	1	25M	14	72	3	Difference	±2	±0.5	73	83.5	CMOS	QFN32	LTC2246	MP
GAD2247	Pipeline	1	40M	14	75	3	Difference	±2	±0.5	73.5	89	CMOS	QFN32	LTC2247	MP
GAD2248	Pipeline	1	65M	14	243	3	Difference	±2	±0.5	73.5	89	CMOS	QFN32	LTC2248	MP
GAD2249	Pipeline	1	80M	14	255	3	Difference	±2	±0.5	73.7	89.1	CMOS	QFN32	LTC2249	MP
GAD2254	Pipeline	1	105M	14/12	270	3	Difference	±2	±0.5	72.5	84.5	CMOS	QFN32	LTC2254 /LTC2252	MP
GAD2255	Pipeline	1	125M	14/12	280	3	Difference	±2	±0.5	72.5	84.5	CMOS	QFN32	LTC2255 /LTC2253	MP
GAD2263	Pipeline	2	25M	14	94	1.8	Difference	±1	±0.3	74.4	90	LVDS	LGA40	LTC2263	MP
GAD2264	Pipeline	2	40M	14	94	1.8	Difference	±1	±0.3	74	90	LVDS	LGA40	LTC2264	MP
GAD2267	Pipeline	2	105M	14	299	1.8	Difference	±1	±0.3	73.1	88	LVDS	LGA40	LTC2267	MP
GAD2268	Pipeline	2	125M	14	432	1.8	Difference	±1	±0.3	74.8	90	LVDS	LGA40	LTC2268	MP
GAD2365	Pipeline	1	500M	14	816	1.8	Difference	±2.5	±0.5	70.5	84.5	LVDS	QFN72	ISLA204P50	CS
GAD9011	Pipeline	8	125M	14	1272	1.8	Difference	±1	±0.3	74.8	88	LVDS	BGA140	LTC9011	MP
GAD9694	Pipeline	4	500M	14	2.05W	0.975/1.8/2.5	Difference	±7	±1	67	78	JESD204B	QFN72	AD9694	CS

SAR ADC

GAD7283	SAR	1	100K	12	9.25	5	SE	±0.3	±0.4	72	89	SPI/SSI	SOP-8	—	MP
GAD7689	SAR	8	250K	16	13	3.3-5	SE / Diff	±0.8	±0.7	87	105	SPI	QFN20	AD7689	MP
GAD7699	SAR	8	500K	16	16	5	SE / Diff	±0.8	±0.7	87	105	SPI	QFN20	AD7699	MP
GAD7980	SAR	1	1M	16	7.7	2.5	SE / Diff	±2	±0.8	86	100	SPI	DFN10	AD7980	MP

PRODUCT SELECTION GUIDE

Product Model	Output Voltage	Initial precision	Warm Drift	Noise	Operating Temperature	Operating Voltage	pressure differential	Package Type	P2P Compatible	Product Status
	V	%	ppm/°C	μVpp	°C	V	mV			
10ppm/°C , SOIC-8										
GREF0512	1.25	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5010	MP
GREF0512L	1.25	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5010	MP
GREF0518	1.8	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	/	MP
GREF0518L	1.8	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	/	MP
GREF0520	2.048	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5020, A*R440	MP
GREF0520L	2.048	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5020, A*R440	MP
GREF0525	2.5	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5025, A*R441	MP
GREF0525L	2.5	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5025, A*R441	MP
GREF0530	3	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5030, A*R443	MP
GREF0530L	3	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5030, A*R443	MP
GREF0533	3.3	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F196, A*R4533	MP
GREF0533L	3.3	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F196, A*R4533	MP
GREF0540	4.096	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5040, A*R444	MP
GREF0540L	4.096	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5040, A*R444	MP
GREF0550	5	0.1	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5050, A*R445	MP
GREF0550L	5	0.2	10	2.2	-55~125	2.7~5.5	200	SOIC-8	R*F5050, A*R445	MP
10ppm/°C , SOT23-6										
GRE10xxH	1.25/1.8/2.048 /2.5/3/3.3/4.096/5	0.1	10	2.2	-55~125	2.7~5.5	200	SOT23-6	R*F32xx, M*X6070	MP
GREF10xxL	1.25/1.8/2.048 /2.5/3/3.3/4.096/5	0.2	10	2.2	-55~125	2.7~5.5	200	SOT23-6	R*F32xx, M*X6070	MP
20ppm/°C , SOT23-3										
GREF20xx	1.25/1.8/2.048 /2.5/3/3.3/4.096/5	0.2	20	2.2	-55~125	2.7~5.5	200	SOT23-3	R*F3012 R*F3112	MP