

DATA SHEET

Part No.	AN26261A
Package Code No.	ULGA031-W-3525

Maintenance/Discontinued includes following product lifecycle stage.
Discontinued
planned maintenance type
maintenance type
planned discontinued type
discontinued type
Please visit following URL about latest information.
<http://panasonic.net/sc/en>

Contents

■ Overview	3
■ Features	3
■ Applications	3
■ Package	3
■ Type	3
■ Application Circuit Example	4
■ Test Circuit Diagram	5
■ Pin Out	6
■ Pin Descriptions	7
■ Absolute Maximum Ratings	8
■ Operating Supply Voltage Range	8

AN26261A

Transmit RF IC for WCDMA (Dual Band)

■ Overview

- AN26261A is WCDMA transmit RFIC that is planned to use for dual band WCDMA in Japan.
AN26261A is consist of direct conversion modulator, voltage gain control amplifiers, VCOs and synthesizer.
There is able to build the WCDMA transmit RF block with external PA, pre-driver with gain control amplifier and RF-filter.
- This IC is expecting to use with the WCDMA receive IC; AN26260A.

■ Features

- Direct modulation transmit RFIC for dual band WCDMA with the on-chip VCOs.
- Transmit frequencies : 1920 MHz to 1980 MHz, 830 MHz to 855 MHz.
- Current consumption : 45 mA (Typ.) .

■ Applications

- WCDMA single, dual band terminals.

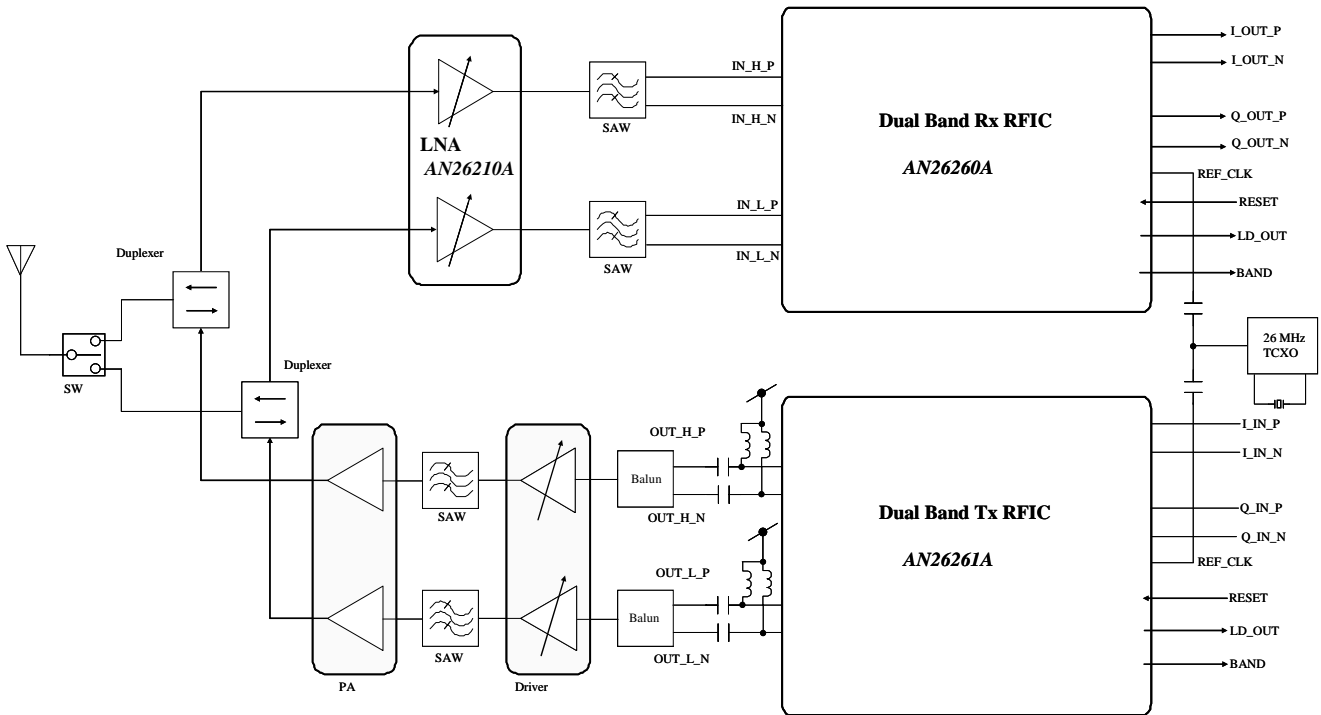
■ Package

- Wafer level chip size package (WLCSP).
Size : $2.47 \times 3.47 \times 0.8 \text{ mm}^3$.

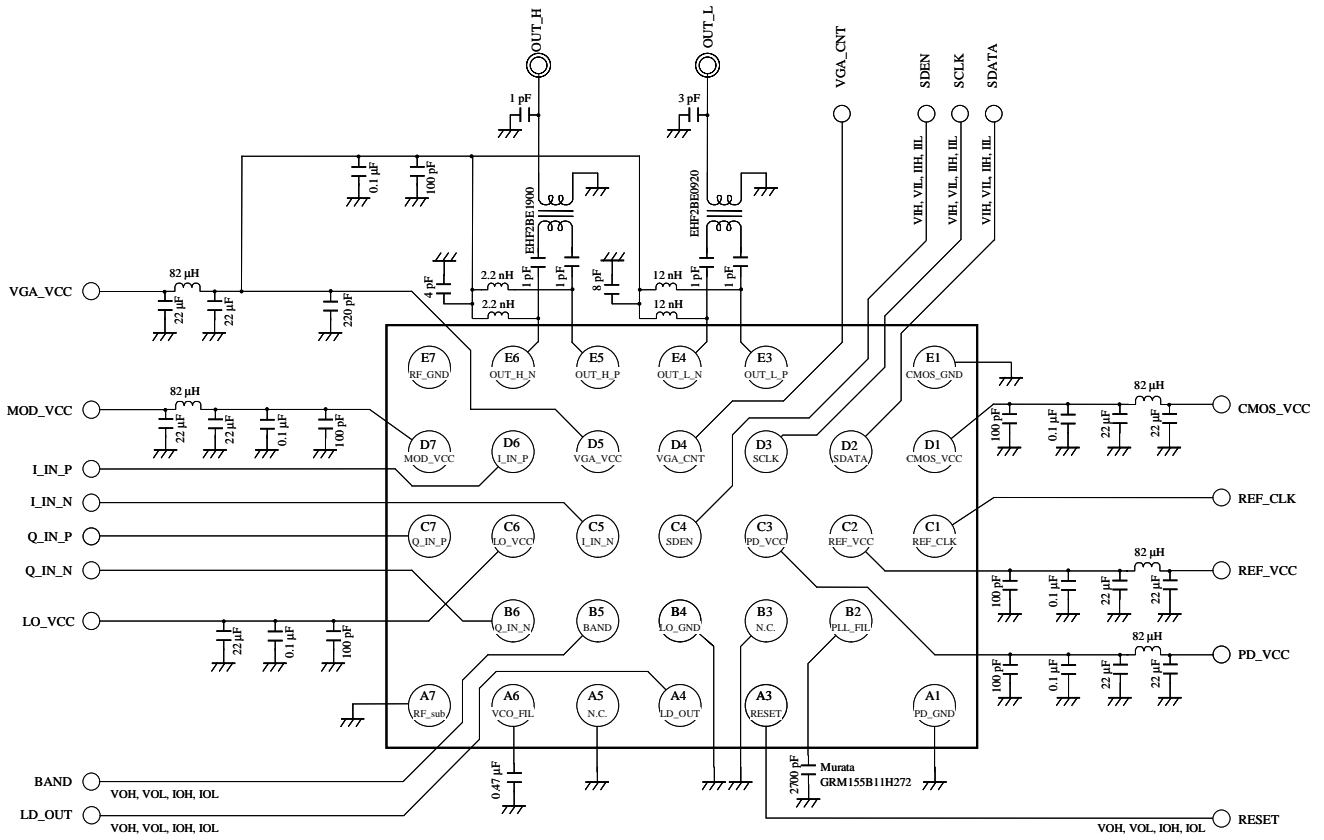
■ Type

- SiGe monolithic Bi-CMOS IC.

■ Application Circuit Example



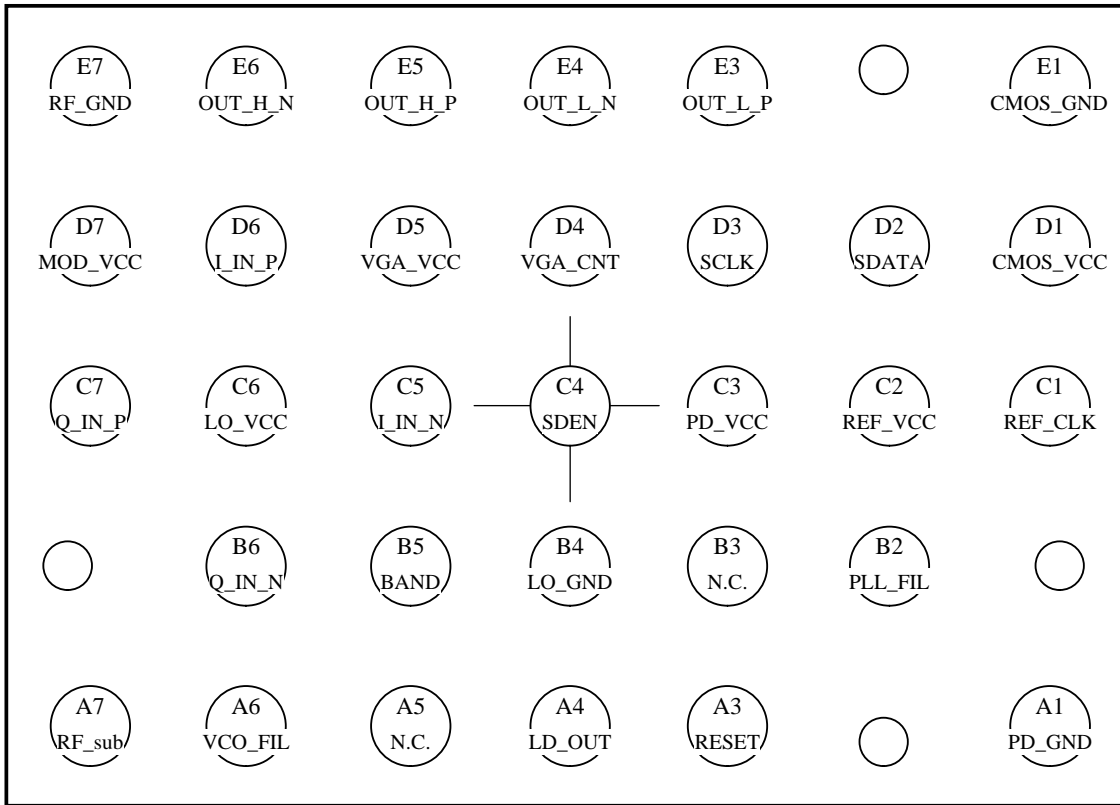
■ Test Circuit Diagram (Top View)



■ Pin Out

The figure below shows pin layout is ' top view '.

Top view



■ Pin Descriptions

Pin No.	Pin name	Type	Description
A1	PD_GND	Ground	Phase detector ground
A3	RESET	In	Reset signal input
A4	LD_OUT	Out	Synthesizer lock detector output
A5	N.C.	—	No connection or ground
A6	VCO_FIL	InOut	VCO ripple filter
A7	RF_sub	Ground	RF substrate
B2	PLL_FIL	InOut	PLL loop filter
B3	N.C.	—	No connection or ground
B4	LO_GND	Ground	Local ground
B5	BAND	Out	Band selector output
B6	Q_IN_N	In	Q channel baseband negative input
C1	REF_CLK	In	Reference clock input
C2	REF_VCC	Supply	Reference clock amplifier supply
C3	PD_VCC	Supply	Phase detector supply
C4	SDEN	In	Serial enable
C5	I_IN_N	In	I channel baseband negative input
C6	LO_VCC	Supply	Local supply
C7	Q_IN_P	In	Q channel baseband positive input
D1	CMOS_VCC	Supply	CMOS logic supply
D2	SDATA	In	Serial data input
D3	SCLK	In	Serial clock input
D4	VGA_CNT	In	Variable gain control amplifier control voltage input
D5	VGA_VCC	Supply	Variable gain control amplifier supply
D6	I_IN_P	In	I channel baseband positive input
D7	MOD_VCC	Supply	Modulator supply
E1	CMOS_GND	Ground	CMOS logic ground
E3	OUT_L_P	Out	800 MHz band positive output
E4	OUT_L_N	Out	800 MHz band negative output
E5	OUT_H_P	Out	2 GHz band positive output
E6	OUT_H_N	Out	2 GHz band negative output
E7	RF_GND	Ground	RF ground

■ Absolute Maximum Ratings

A No.	Parameter	Symbol	Rating	Unit	Notes
1	Supply voltage	V_{CC}	0 to 3.6	V	*1
2	Supply current	I_{CC}	64.5	mA	—
3	Power dissipation	P_D	59.8	mW	*2
4	Operating ambient temperature	T_{opr}	-25 to +85	°C	*3
5	Storage temperature	T_{stg}	-55 to +125	°C	*3
6	DC input voltage	VI	0 to $V_{CC} + 0.3$ and less than 3.6	V	*1,*4
7	I,Q DC differential input voltage	VID	-2 to 2	V	*1,*5

Note) *1: The supply voltage is shown the value under the condition which not exceeds the absolute maximum ratings and the power dissipation.

*2: The power dissipation is shown the value at $T_a = 85^\circ\text{C}$ for the independent (non-mounted) IC package without a heat sink.

In case of use this IC, please refer to the P_D - T_a diagram of the package standard and use under the condition not exceeding the allowable value.

*3: Except for the power dissipation, operating ambient temperature, and storage temperature, all ratings are for $T_a = 25^\circ\text{C}$.

*4: SCLK, SDATA, SDEN, RESET, REF_CLK, I_IN_P, I_IN_N, Q_IN_P, Q_IN_N, VGA_CNT pins.

*5: I_IN_P to I_IN_N or Q_IN_P to Q_IN_N differential input voltage.

■ Operating supply voltage range

Parameter	Symbol	Range	Unit	Notes
Supply voltage range	V_{CC}	2.7 to 3.0	V	—

Request for your special attention and precautions in using the technical information and semiconductors described in this book

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products, and no license is granted under any intellectual property right or other right owned by our company or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.
 - Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.