DATA SHEET

SKYA21051: 200 to 6000 MHz Broadband Low-Noise Amplifier

Automotive Applications

- In-cabin cellular telematics repeater
- Japan Intelligent Transport Systems 700 MHz Rx LNA: ARIB STD-T109
- FDD and TDD 2G/3G/4G LTE, LTE-A systems
- Active antenna array and MIMO
- Low-noise broadband gain block and driver amplifier

Features

- AEC-Q100 grade-2 qualification pending
- Enhanced ruggedness meeting bHAST/THB qualification requirements
- Level-3 PPAP available on request
- IMDS material declaration supported
- Extended production life to support automotive requirements
- Excellent broadband flat gain performance
- Low noise figure
- High IP3 performance over voltage
- Single matching circuit for 200 to 6000 MHz
- Adjustable supply current from 30 to 100 mA
- Flexible bias voltage: 3 to 5 V
- Fast rise/fall time ENABLE function suitable for TDD application
- Temperature and process-stable active bias up to +105 °C
- Miniature DFN (8-pin, 2 x 2 mm) package (MSL1 @ 260 °C per JEDEC J-STD-020)

Skyworks Green™ products are compliant with all applicable legislation and are halogen-free. For additional information, refer to *Skyworks Definition of Green™*, document number SQ04-0074.

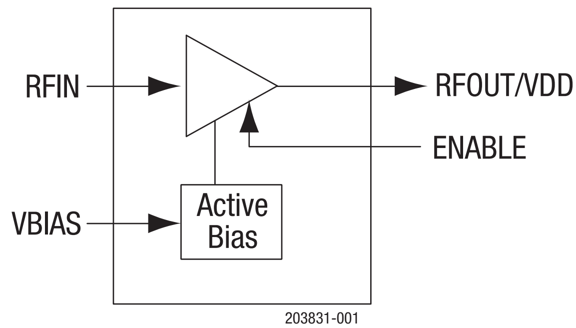


Figure 1. SKYA21051 Block Diagram

Description

The SKYA21051 is an automotive ultra-broadband low-noise amplifier with superior gain flatness and exceptional linearity.

The compact 2 x 2 mm, 8-pin Dual Flat No Lead packaged LNA is designed for FDD and TDD 2G/3G/4G LTE small-cell base stations operating from 200 to 6000 MHz.

The internal active bias circuitry provides stable performance over temperature and process variation. The device offers the ability to externally adjust supply current.

A functional block diagram is shown in Figure 1. The pin configuration and package are shown in Figure 2. Signal pin assignments and functional pin descriptions are provided in Table 1.

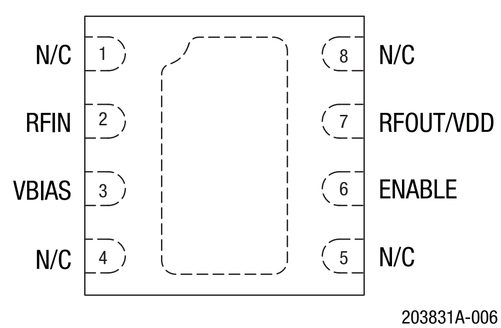


Figure 2. SKYA21051 Pinout (Top View)

Table 1. SKYA21051 Signal Descriptions

Pin	Name	Description	Pin	Name	Description
1	N/C	No connection. May be left open, connected to VDD, or connected to ground with no change in performance.	5	N/C	No connection. May be connected to ground with no change in performance.
2	RFIN	RF input. DC blocking capacitor required.	6	ENABLE	Enable pin. Active low = amplifier ON state.
3	VBIAS	Bias voltage for input gate. External resistor sets current consumption.	7	RFOUT/VDD	RF output. Apply VDD through RF choke inductor. DC blocking capacitor required.
4	N/C	No connection. May be connected to ground with no change in performance.	8	N/C	No connection. May be connected to ground with no change in performance.

Electrical and Mechanical Specifications

The absolute maximum ratings of the SKYA21051 are provided in Table 2. Electrical specifications are provided in Tables 3 through 7.

Typical performance characteristics are illustrated in Figures 3 through 35.

Table 2. SKYA21051 Absolute Maximum Ratings[1]

Parameter	Symbol	Minimum	Maximum	Units
Supply voltage	V_{DD}		5.5	V
Quiescent supply current	I_{DQ}		100	mA
RF input power (C/W)	P_{IN}		+21	dBm
Storage temperature	T_{STG}	-40	+150	°C
Operating temperature[2,3]	T_A	-40	+105	°C
Junction temperature	T_J		+150	°C
Electrostatic discharge:	ESD			
Charged Device Model (CDM), Class 4			1000	V
Human Body Model (HBM), Class 1A			250	V
Machine Model (MM), Class A			30	V

1 Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their nominal value. Exceeding any of the limits listed here may result in permanent damage to the device.

2 In all cases, ambient operating temperature (T_A) is specified relative to case temperature (T_C) and assumes $T_A = (T_C - 10$ °C).

3 Case operating temperature (Tc) refers to the temperature at the ground pad on the underside of the package.

***ESD HANDLING**: Although this device is designed to be as robust as possible, electrostatic discharge (ESD) can damage this device. This device must be protected at all times from ESD when handling or transporting. Static charges may easily produce potentials of several kilovolts on the human body or equipment, which can discharge without detection. Industry-standard ESD handling precautions should be used at all times.*

Table 3. SKYA21051 Electrical Specifications: Thermal Data[1]
(V_{DD} = 3.3 V, Enable = GND, T_A = +25 °C, P_{IN} = -20 dBm, Characteristic Impedance [Z_O] = 50 Ω, Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Thermal resistance	θ_{JC}			40		°C/W
Channel temperature @ +85 °C reference (package heat slug)		V_{DD} = 3.3 V, I_{CQ} = 16 mA, no RF applied, dissipated power = 53 mW		87.1		°C

[1] Performance is guaranteed only under the conditions listed in this table.

Table 4. SKYA21051 Electrical Specifications: 760 MHz Optimized Tuning[1] (See Figure 38)
(V_{DD} = 3.3 V, Enable = GND, T_A = +25 °C, P_{IN} = -20 dBm, R_{BIAS} = 15 kΩ, Characteristic Impedance [Z_O] = 50 Ω, Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
RF Specifications						
Noise figure[2]	NF	Small signal		1	1.5	dB
Small signal gain	$\|S_{21}\|$	P_{IN} = -20 dBm	14	15.5		dB
Input return loss	$\|S_{11}\|$	P_{IN} = -20 dBm	8.5	10		dB
Output return loss	$\|S_{22}\|$	P_{IN} = -20 dBm	13	20		dB
Reverse isolation	$\|S_{12}\|$	P_{IN} = -20 dBm		22		dB
Third order input intercept point	IIP3	@ 760 MHz (tone spacing 1 MHz)	+1	+2		dBm
Third order output intercept point	OIP3	@ 760 MHz (tone spacing 1 MHz)	+12	+17		dBm
1 dB input compression point	IP1dB	@ 760 MHz	-8	-6.1		dBm
1 dB output compression point	OP1dB	@ 760 MHz	+6	+8.9		dBm
DC Specifications						
Supply voltage	V_{DD}			3.3		V
Quiescent current	I_{DD}	Set with external resistor (R_{BIAS} = 15 kΩ)	10	13	16	mA
Bias current	I_{BIAS}			200		µA
Enable voltage: Gain mode Power-down mode	V_{EN}		 0 1.1		 0.2 5.5	 V V
Enable rise time[3]	t_{ON}				500	ns
Enable fall time[3]	t_{OFF}				150	ns

[1] Performance is guaranteed only under the conditions listed in this table.
[2] Connector and board loss are de-embedded.
[3] Tested with a 100 kHz square wave, 1000 pF capacitance-to-ground on the ENABLE pin. Switching time can be improved by reducing the value of, or eliminating, the 1000 pF capacitor on pin 6 (component M17 in Figure 11).

Table 5. SKYA21051 Electrical Specifications: 700 to 2700 MHz Optimized Tuning[1]
(V_{DD} = 3.3 V, Enable = GND, T_A = +25 °C, P_{IN} = -20 dBm, Characteristic Impedance [Z_O] = 50 Ω, Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typical	Max	Units
RF Specifications						
Noise figure[2]	NF	@ 700 MHz @ 1200 MHz @ 2100 MHz @ 2700 MHz		0.95 0.97 0.98 1		dB dB dB dB
Small signal gain	|S21|	@ 700 MHz @ 1200 MHz @ 2100 MHz @ 2700 MHz		17.8 17.5 17.3 17.1		dB dB dB dB
Input return loss	|S11|	@ 700 MHz @ 1200 MHz @ 2100 MHz @ 2700 MHz		18 20 20 18		dB dB dB dB
Output return loss	|S22|	@ 700 MHz @ 1200 MHz @ 2100 MHz @ 2700 MHz		22 19 19 22		dB dB dB dB
Reverse isolation	|S12|	@ 700 MHz @ 1200 MHz @ 2100 MHz @ 2700 MHz		22 22 22 23		dB dB dB dB
Third order input intercept point	IIP3	@ 700 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone @ 2700 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone	12 10	14.2 12.4		dBm dBm
Third order output intercept point	OIP3	@ 700 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone @ 2700 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone	30 27.5	32 29.5		dBm dBm
1 dB input compression point	IP1dB	@ 700 MHz @ 2700 MHz	-1 -2	+1 0		dBm dBm
1 dB output compression point	OP1dB	@ 700 MHz @ 2700 MHz	+16 +14	+18 +16		dBm dBm
DC Specifications						
Supply voltage	V_{DD}			3.3		V
Quiescent current	I_{DD}	Set with external resistor (R_{BIAS} = 4.7 kΩ)		45		mA
Bias current	I_{BIAS}					μA
Enable voltage: Gain mode Power-down mode	V_{EN}		 0 1.5		 0.2 5.5	 V V
Enable rise time[3]	t_{ON}	@ 2700 MHz		400		ns
Enable fall time[3]	t_{OFF}	@ 2700 MHz		150		ns

1 Verified by characterization.

2 Connector and board loss are de-embedded.

3 Tested with a 100 kHz square wave, 1000 pF capacitance-to-ground on the ENABLE pin. Switching time can be improved by reducing the value of, or eliminating, the 1000 pF capacitor on pin 6 (component M17 in Figure 19).

Table 6. SKYA21051 Electrical Specifications: 3400 to 3800 MHz Optimized Tuning[1]
(V_{DD} = +3.3 V, ENABLE = LOW, I_{CQ} = 45 mA, T_{OP} = +25 °C, P_{IN} = -20 dBm, Optimized for 3400 to 3800 MHz Operation, Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typical	Max	Units
RF Specifications						
Noise figure	NF	@ 3400 MHz @ 3600 MHz @ 3800 MHz		1.2 1.25 1.3		dB dB dB
Small signal gain	|S21|	@ 3400 MHz @ 3600 MHz @ 3800 MHz		16.8 16.7 16.5		dB dB dB
Input return loss	|S11|	@ 3400 MHz @ 3600 MHz @ 3800 MHz		24 30 30		dB dB dB
Output return loss	|S22|	@ 3400 MHz @ 3600 MHz @ 3800 MHz		22 21 22		dB dB dB
Reverse isolation	|S12|	@ 3400 MHz @ 3600 MHz @ 3800 MHz		23 23 23		dB dB dB
Third order input intercept point	IIP3	@ 3400 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone	9	11.4		dBm
		@ 3800 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone	8	10.9		dBm
Third order output intercept point	OIP3	@ 3400 MHz, Δf = 1 MHz, PIN = -20 dBm/tone	25	28.2		dBm
		@ 3800 MHz, Δf = 1 MHz, P_{IN} = -20 dBm/tone	24	27.4		dBm
1 dB input compression point	IP1dB	@ 3400 MHz @ 3800 MHz	-3 -3	-1 -1		dBm dBm
1 dB output compression point	OP1dB	@ 3400 MHz @ 3800 MHz	12 12	14.8 14.5		dBm dBm

1 Verified by characterization.

Table 7. SKYA21051 Electrical Specifications: 5G Driver Optimized Tuning[1]
(VDD = +5 V, ENABLE = LOW, ICQ = 45 mA, T_{OP} = +25 °C, PIN = -20 dBm, Optimized for 3400 to 5000 MHz Operation, Unless Otherwise Noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Noise figure	NF	4400 MHz		1.4		dB
Small signal gain	S21	4400 MHz		14.5		dB
Input return loss	S11	4400 MHz		-15		dB
Output return loss	S22	4400 MHz		-15		dB
Isolation	S12	4400 MHz		-25		dB
Third order output intercept point	OIP3	4400 MHz		19		dBm
1 dB output compression point	OP1dB	4400 MHz		16		dBm

1 Verified by characterization.

Typical Performance Characteristics, 700 to 2700 MHz

(VDD = 3.3 V, Enable = GND, ICQ = 45 mA, TA = +25 °C, PIN = -20 dBm, Characteristic Impedance [Zo] = 50 Ω, Unless Otherwise Noted)

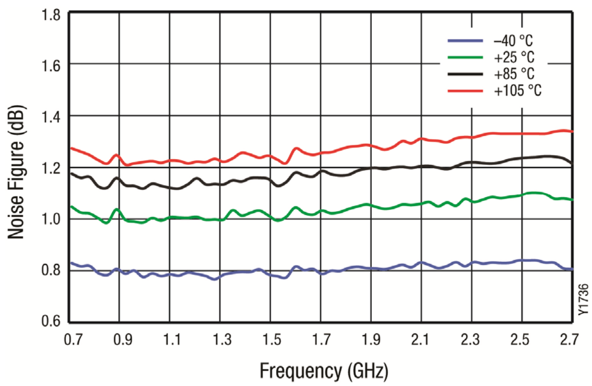


Figure 3. Evaluation Board NF vs Frequency over Temperature

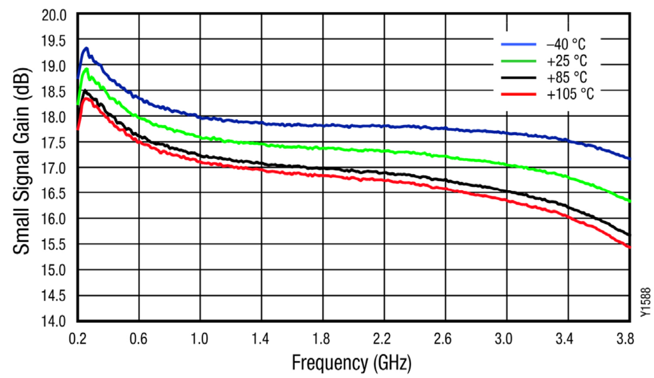


Figure 4. Narrow Band Gain vs Frequency over Temperature

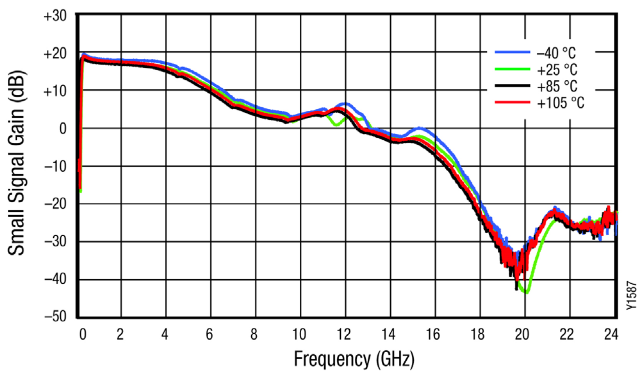


Figure 5. Broadband Gain vs Frequency over Temperature

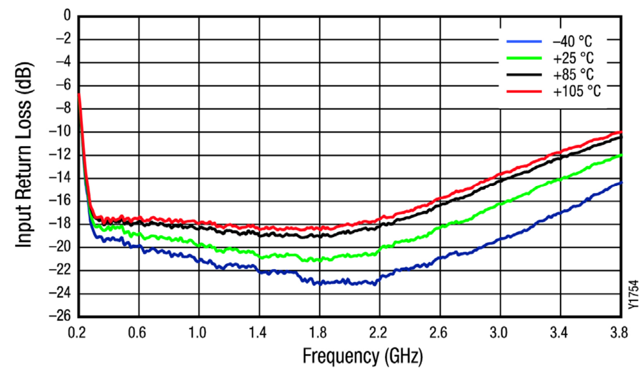


Figure 6. Narrowband Input Return Loss vs Frequency over Temperature

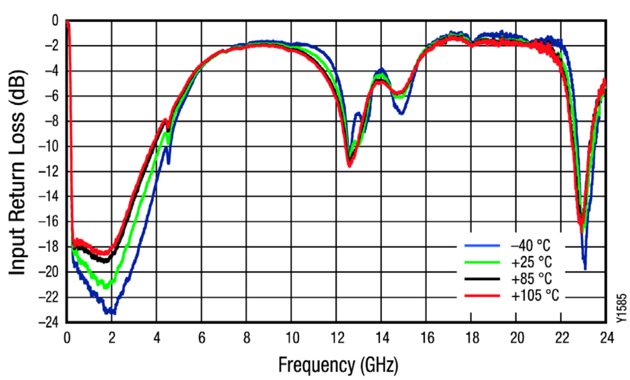


Figure 7. Broadband Input Return Loss vs Frequency over Temperature

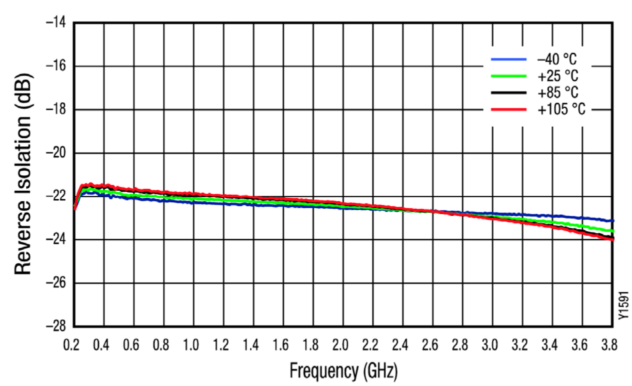


Figure 8. Narrowband Reverse Isolation vs Frequency over Temperature

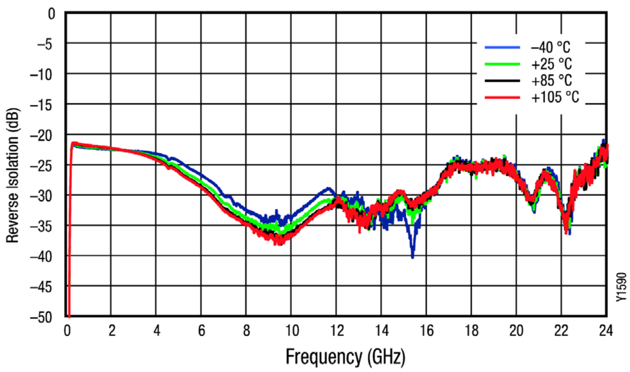


Figure 9. Broadband Reverse Isolation vs Frequency over Temperature

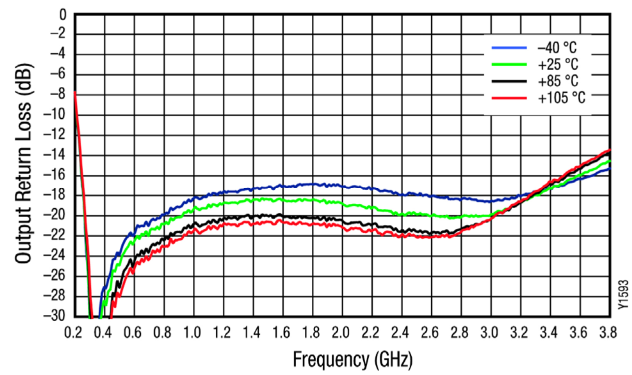


Figure 10. Narrowband Output Return Loss vs Frequency over Temperature

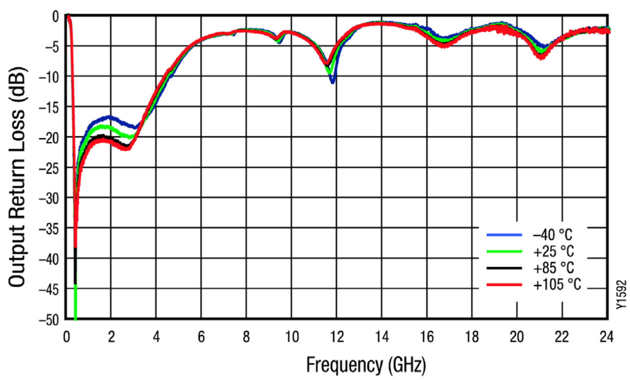


Figure 11. Broadband Output Return Loss vs Frequency over Temperature

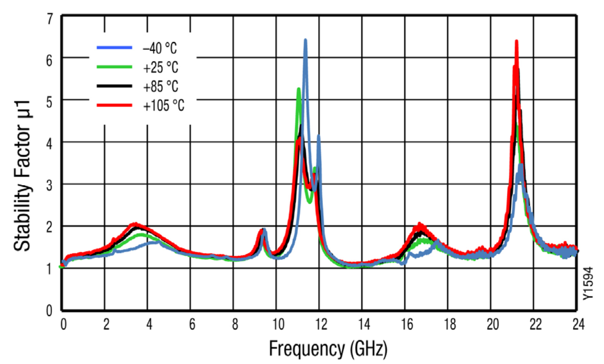


Figure 12. Stability Factor (µ1) vs Frequency over Temperature

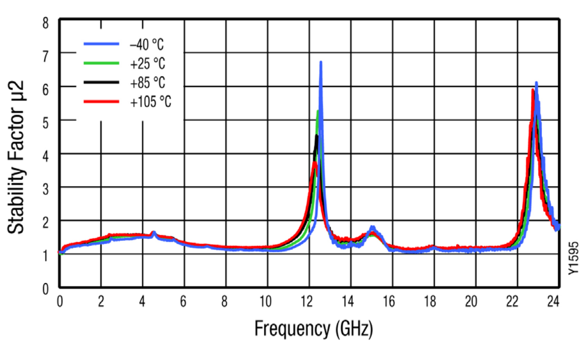


Figure 13. Stability Factor (µ2) vs Frequency over Temperature

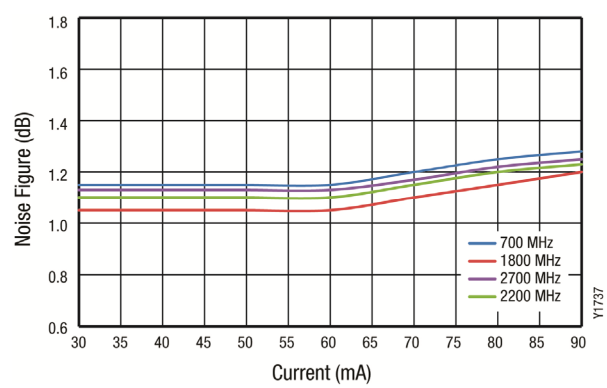


Figure 14. Evaluation Board Noise Figure vs Quiescent Current over Frequency

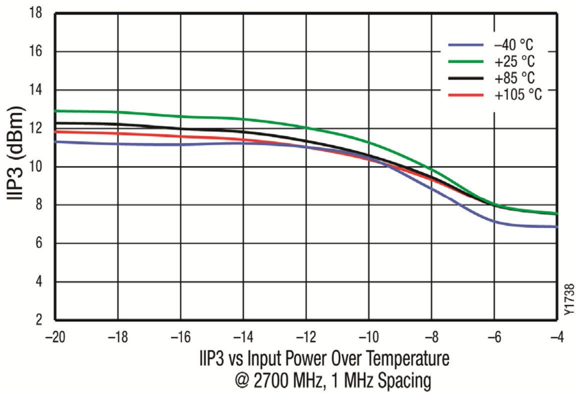


Figure 15. OIP3 vs Input Power over Temperature (@ 2700 MHz, 1 MHz Spacing)

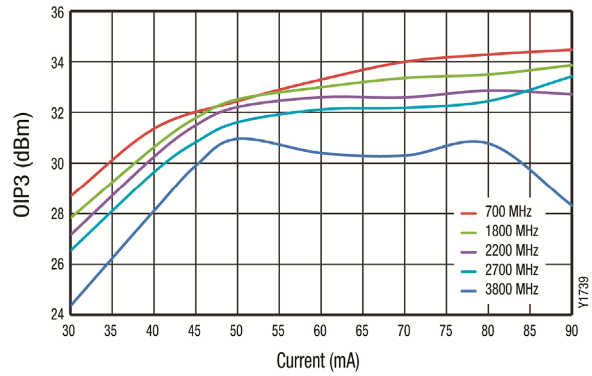


Figure 16. OIP3 vs Quiescent Current over Frequency

Typical Performance Characteristics, 3400 to 3800 MHz Optimized Tuning

(V_{DD} = 3.3 V, Enable = GND, I_{CQ} = 45 mA, T_A = +25 °C, P_{IN} = -20 dBm, Characteristic Impedance [Zo] = 50 Ω, Unless Otherwise Noted)

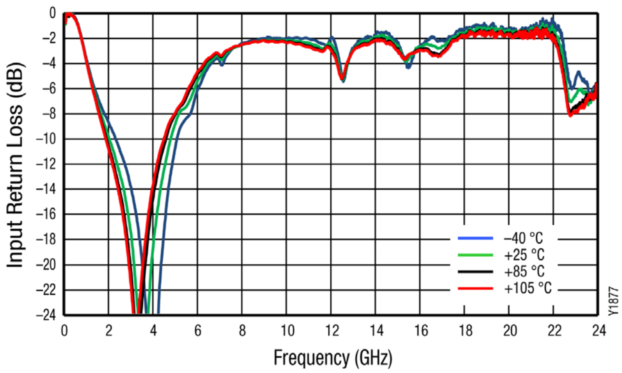


Figure 17. Broadband Input Return Loss vs Frequency over Temperature

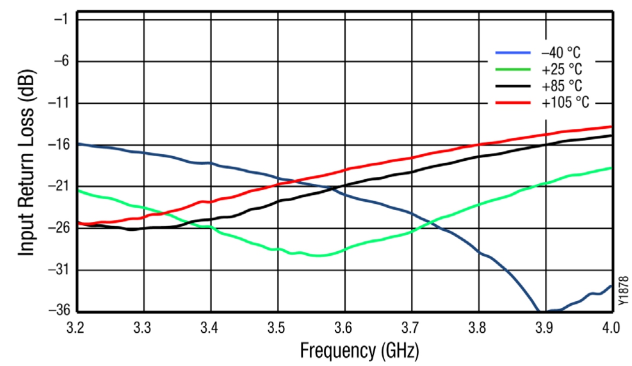


Figure 18. Narrowband Input Return Loss vs Frequency over Temperature

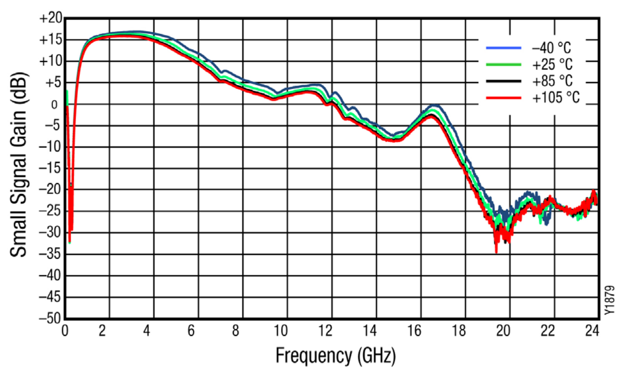


Figure 19. Broadband Gain vs Frequency over Temperature

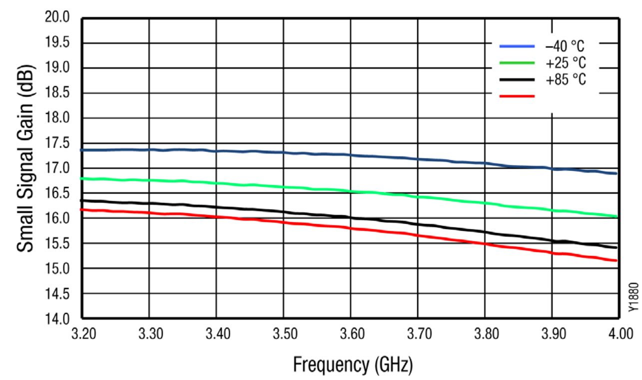


Figure 20. Narrow Band Gain vs Frequency over Temperature

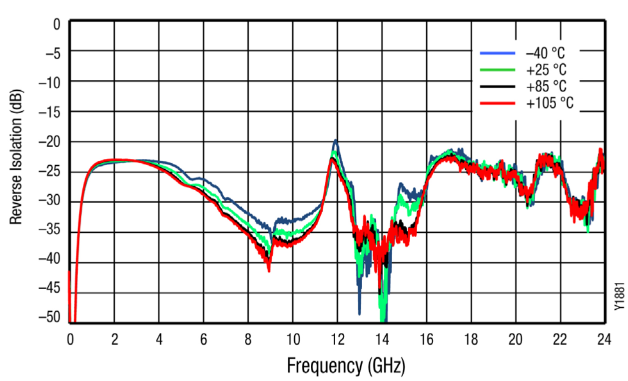


Figure 21. Broadband Reverse Isolation vs Frequency over Temperature

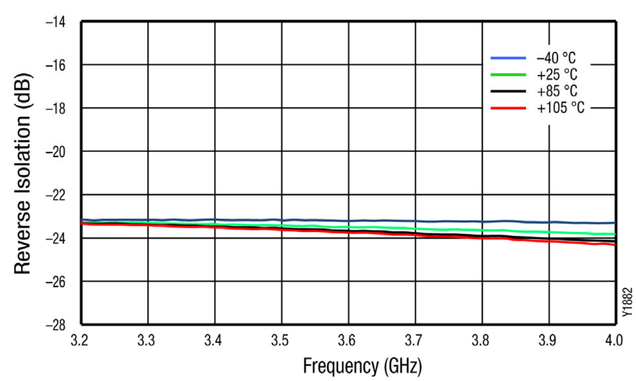


Figure 22. Narrowband Reverse Isolation vs Frequency over Temperature

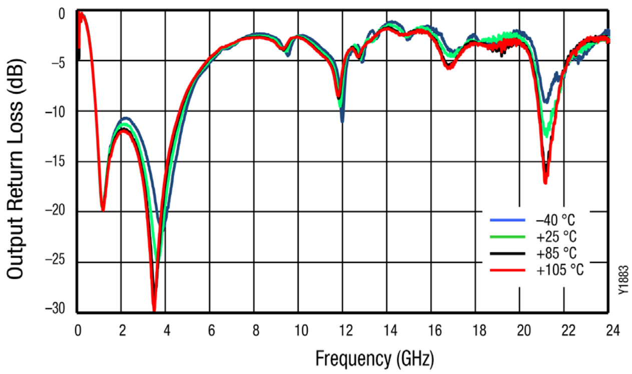


Figure 23. Broadband Output Return Loss vs Frequency over Temperature

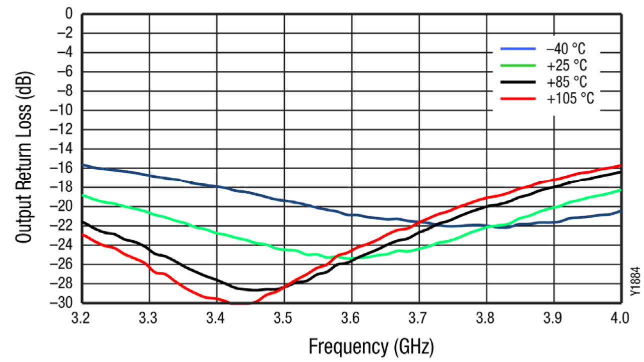


Figure 24. Narrowband Output Return Loss vs Frequency over Temperature

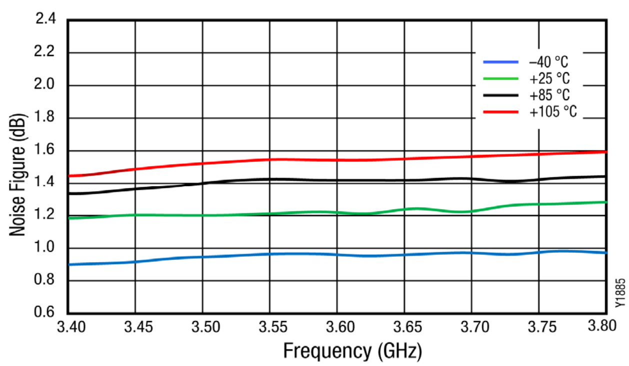


Figure 25. Noise Figure vs Frequency

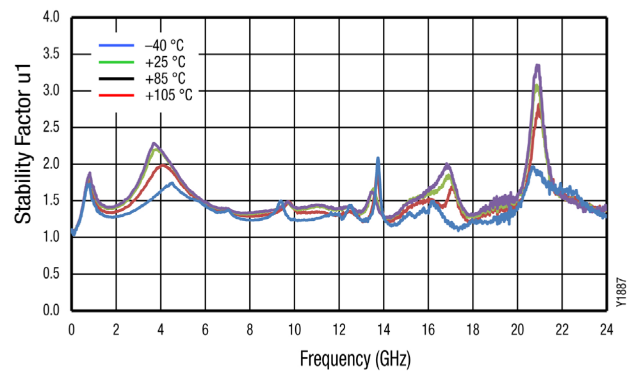


Figure 26. Stability Factor u1 vs Frequency

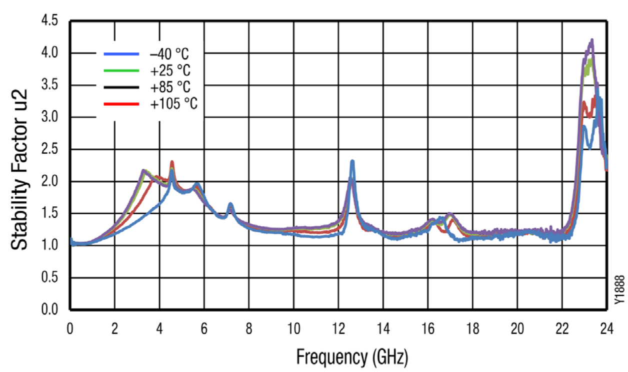


Figure 27. Stability Factor u2 vs Frequency

Typical Performance Characteristics, 5G Driver Optimized Tuning

(VDD = 5 V, Enable = Low, ICQ = 45 mA, TA = +25 °C, PIN = -20 dBm, Optimized for 3400 to 5000 MHz, Unless Otherwise Noted)

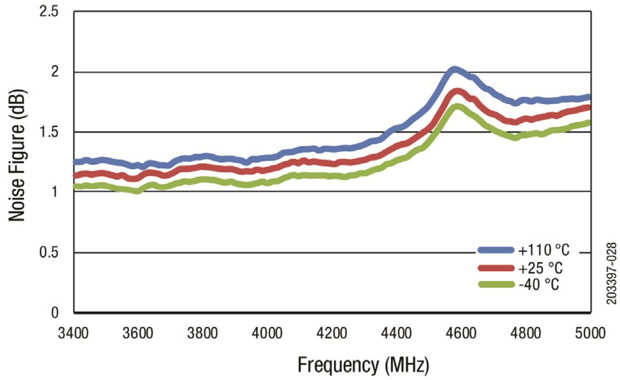


Figure 28. Evaluation Board NF vs Frequency over Temperature

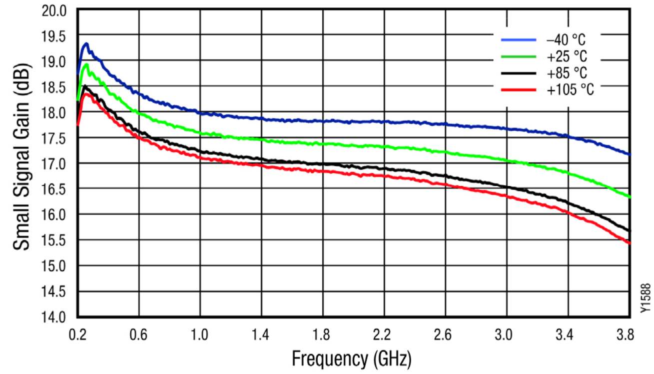


Figure 29. Gain vs Frequency over Temperature

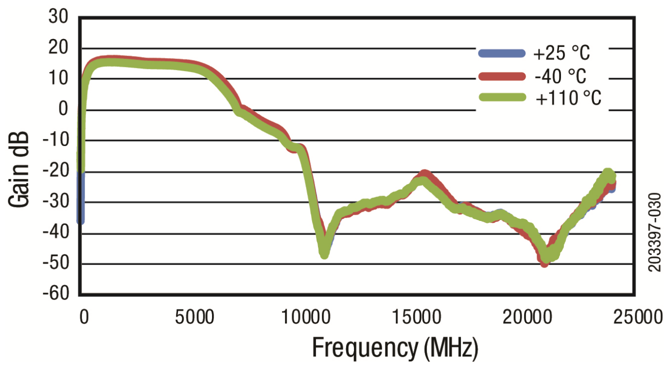


Figure 30. Gain vs Frequency over Temperature

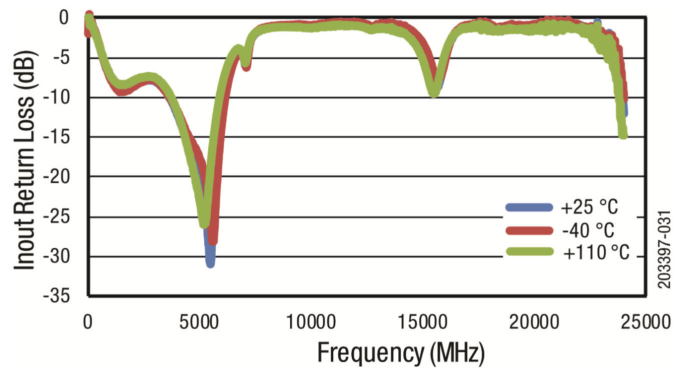


Figure 31. Input Return Loss vs Frequency over Temperature

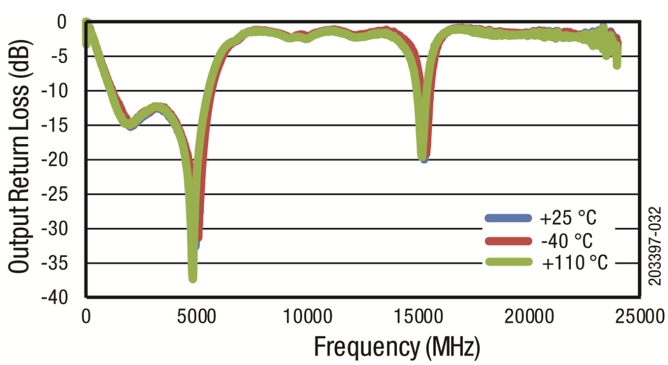


Figure 32. Output Return Loss vs Frequency over Temperature

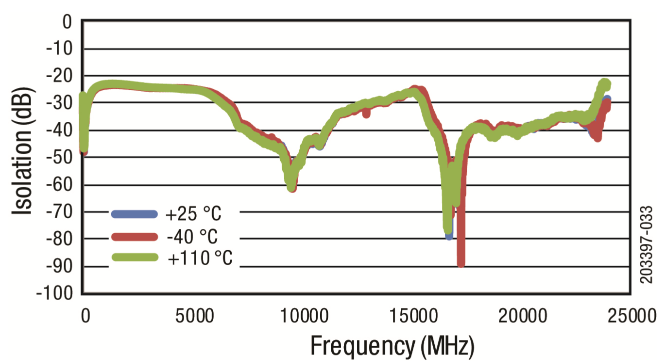


Figure 33. Isolation vs Frequency over Temperature

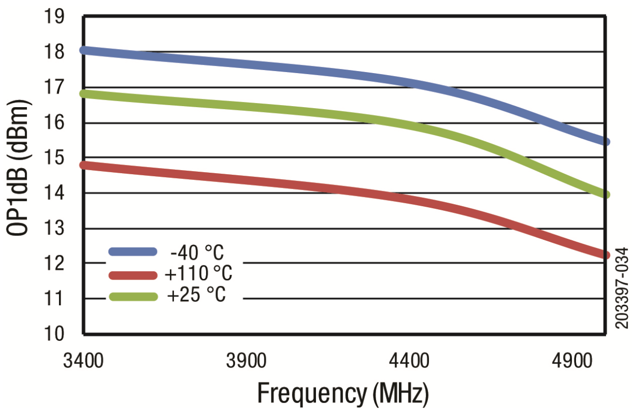


Figure 34. OP1dB vs Frequency over Temperature

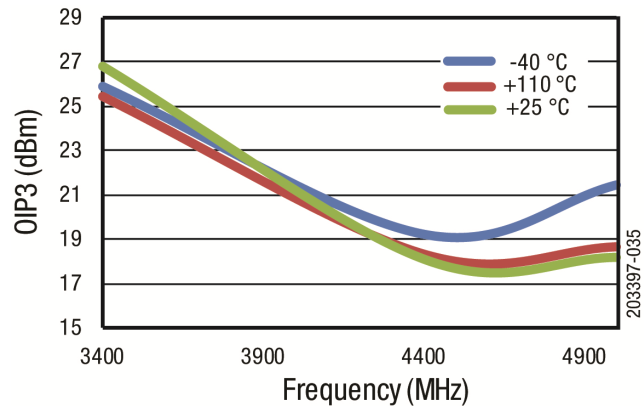


Figure 35. OIP3 vs Frequency over Temperature

Evaluation Board Description

The SKYA21051 Evaluation Board is used to test the performance of the SKYA21051 LNA.

An assembly drawing for the Evaluation Board is shown in Figure 36. The layer detail is provided in Figure 37. An Evaluation Board schematic (optimized for 760 MHz) diagram is provided in Figure 38. Table 8 provides the Bill of Materials (BOM) list for the optimized frequency band (760 MHz). An Evaluation Board schematic (optimized for 700 to 2700 MHz) diagram is provided in Figure 39. Table 9 provides the Bill of Materials (BOM) list for the optimized frequency band (700 to 2700 MHz). Table 10 provides the Bill of Materials (BOM) list for the optimized frequency band (3400 to 5000 MHz). An Evaluation Board schematic (optimized for 3400 to 3800 MHz) diagram is provided in Figure 40. Table 11 provides the Bill of Materials (BOM) list for the optimized frequency band (3400 to 3800 MHz).

Package Dimensions

The PCB layout footprint for the SKYA21051 is provided in Figure 41. Package dimensions are shown in Figure 42, and tape and reel dimensions are provided in Figure 43.

Package and Handling Information

Instructions on the shipping container label regarding exposure to moisture after the container seal is broken must be followed. Otherwise, problems related to moisture absorption may occur when the part is subjected to high temperature during solder assembly.

The SKYA21051 is rated to Moisture Sensitivity Level 1 (MSL1) at 260 °C. It can be used for lead or lead-free soldering. For additional information, refer to the Skyworks Application Note, *Solder Reflow Information*, document number 200164.

Care must be taken when attaching this product, whether it is done manually or in a production solder reflow environment. Production quantities of this product are shipped in a standard tape and reel format.

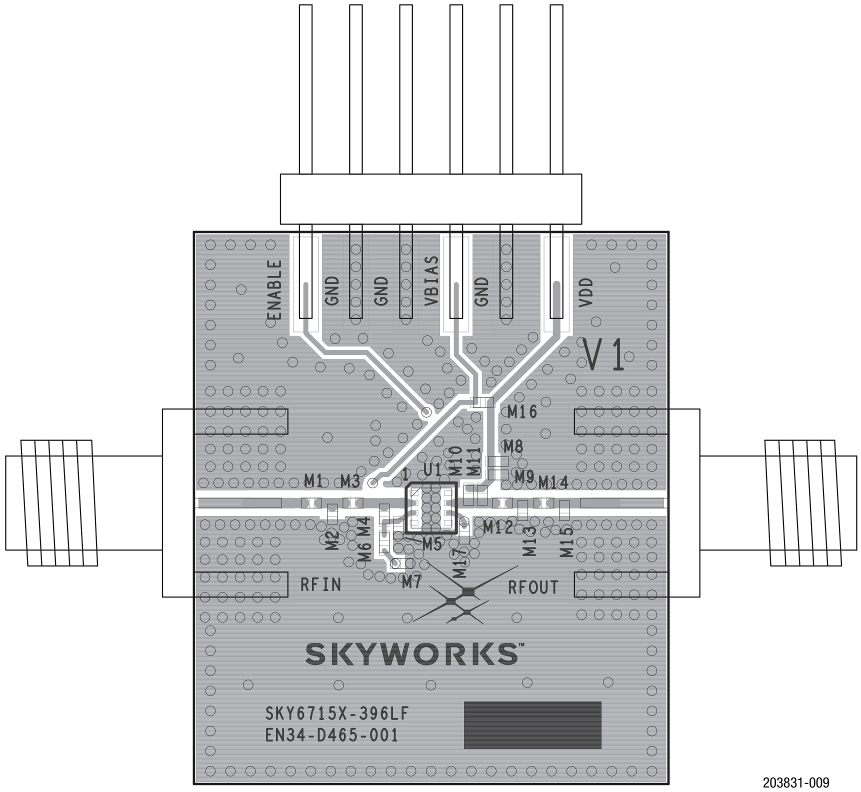
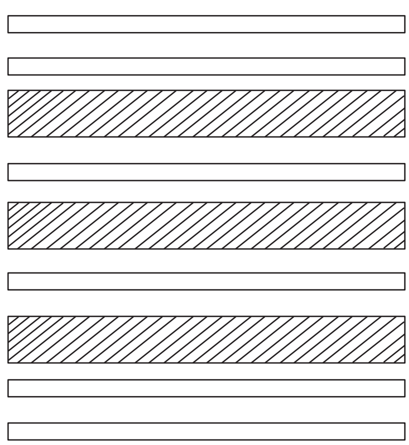


Figure 36. SKYA21051 Evaluation Board Assembly Diagram



Cross Section	Name	Thickness (mm)	Material
	MSK-NS		
	TRA-NS	0.03556	Cu foil
	Laminate	0.254 ± 0.152	Rogers 4350B
	TRA-2	0.0178	Cu foil
	Laminate	0.889 nom.	FR4 Prepreg (Note 1)
	TRA-3	0.0178	Cu foil
	Laminate	0.254 ± 0.152	FR4 Core
	TRA-FS	0.0178	Cu foil
	MSK-PS		

Note 1: Adjust this thickness to meet total thickness goal.

General Notes:
Material: Rogers R04350, $\varepsilon_r = 3.66$
Layer 1 thickness: 0.254 mm
Overall board thickness: 1.575 mm
50 Ω transmission line width: 0.522 mm
Coplanar ground spacing: 0.394 mm
Via diameter: 0.254 mm

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Figure 37. Layer Detail Physical Characteristics

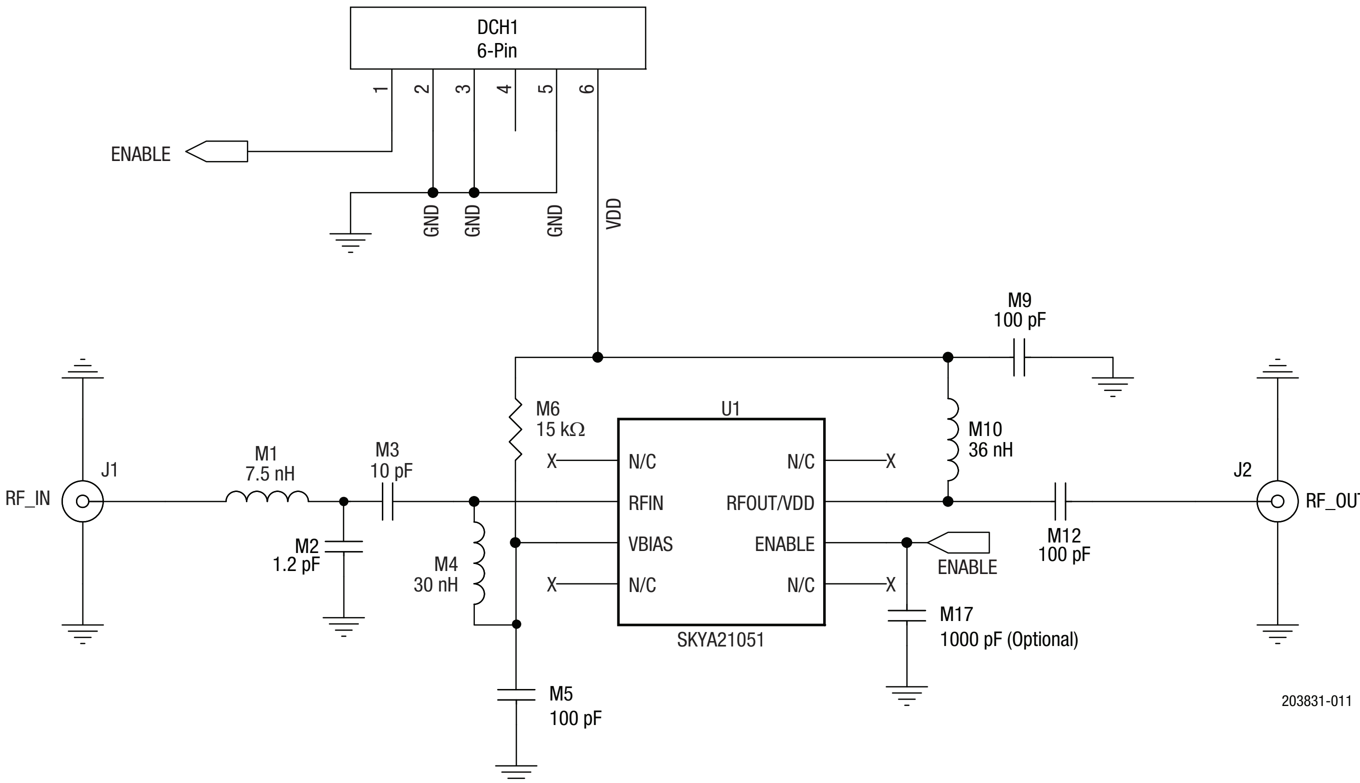


Figure 38. SKYA21051 Evaluation Board Schematic (Optimized for 760 MHz)

Table 8. SKYA21051 Evaluation Board Bill of Materials (760 MHz)

Component	Description	Value	Size	Manufacturer	Mfr Part Number
M1	Inductor	7.5 nH	0402	muRata LQP	CQP15MN7N5B02
M2	Capacitor	1.2 pF	0402	muRata GJM	GJM1555C1H1R2BB01
M3	Capacitor	10 pF	0402	muRata GJM	GJM1555C1H100GB01
M4	Inductor	30 nH	0402	Coilcraft HP	0402HP-30NX_L
M5, M9, M12	Capacitor	100 pF	0402	muRata GRM	GRM1555C1H101JA01D
M6 (R_{BIAS})	Resistor	15 kΩ (stress 1% tolerance)	0402	Panasonic	ERJ-2RKF1502X
M10	Inductor	36 nH	0402	Coilcraft HP	0402HP-36NX_L
M14, M16	Jumper	0 Ω	0402	Panasonic	ERJ-2GE0R00X
M7, M8, M11, M13, M15, M17[1]	DNP				

[1] M17 is optional. It is only needed if the control signal is noisy.

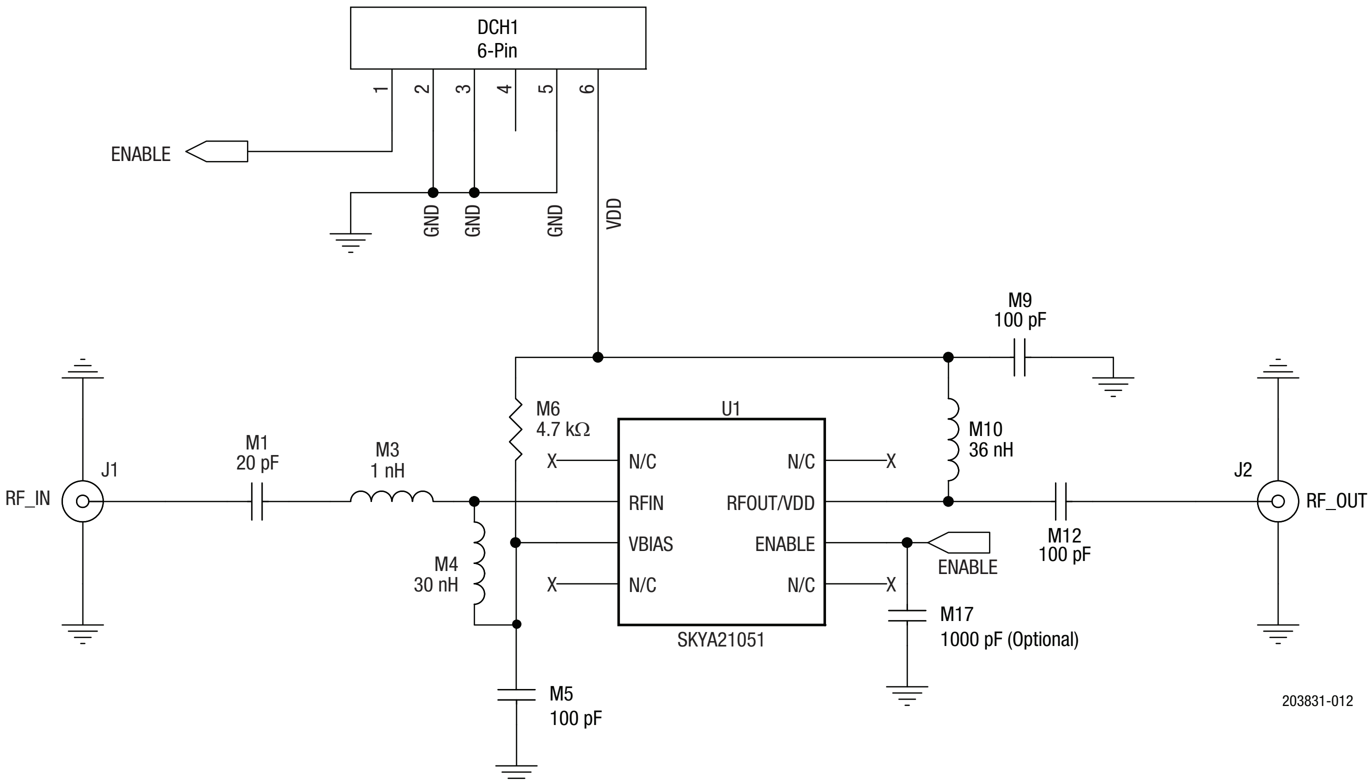


Figure 39. SKYA21051 Evaluation Board Schematic (Optimized for 700 to 2700 MHz)

Table 9. SKYA21051 Evaluation Board Bill of Materials (700 to 2700 MHz)

Component	Description	Value	Size	Manufacturer	Mfr Part Number
M1	Capacitor	20 pF	0402	muRata GJM	GJM1555C1H200JB01
M3	Inductor	1 nH	0402	Coilcraft HP	0402HP-1N0XJL
M4	Inductor	30 nH	0402	Coilcraft HP	0402HP-30NX_L
M5, M9, M12	Capacitor	100 pF	0402	muRata GRM	GRM1555C1H101JA01D
M6 (R_{BIAS})	Resistor	4.7 kΩ (stress 1% tolerance)	0402	Panasonic	ERJ-2RKF4701X
M10	Inductor	36 nH	0402	Coilcraft HP	0402HP-36NX_L
M14, M16	Jumper	0 Ω	0402	Panasonic	ERJ-2GE0R00X
M2, M7, M8, M11, M13, M15, M17[1]	DNP				

[1] M17 is optional. It is only needed if the control signal is noisy.

Table 10. SKYA21051 Evaluation Board Bill of Materials (3400 to 5000 MHz)

Component	Description	Value	Size	Manufacturer	Mfr Part Number
M1	Capacitor	20 pF	402	muRata	GJM1555C1H200GB01
M2	Capacitor	0.5 pF	402	muRata	GJM1555C1HR50WB01
M3	Resistor	0 Ω	402	NA	NA
M4	Resistor	1 kΩ	402	NA	NA
M5	Capacitor	100 pF	402	muRata	GRM1555C1H101JA01
M6	Resistor	8.2 kΩ	402	NA	NA
M8	Capacitor	.01 uF	402	muRata	GRM1555R71H103KA88
M9	Capacitor	1000 pF	402	muRata	GRM1555C1H100JZ01
M10	Inductor	9.1 nH	402	muRata	LQG15HS9N1J02
M12	Inductor	1.5 nH	402	muRata	LQP15MN1N5B02
M13	Capacitor	0.5 pF	402	muRata	GJM1555C1HR50WB01
M14	Capacitor	100 pF	402	muRata	GRM1555C1H101JA01
M16	Resistor	0 Ω	402	NA	NA
M17	Capacitor	100 pF	402	muRata	GRM1555C1H101JA01

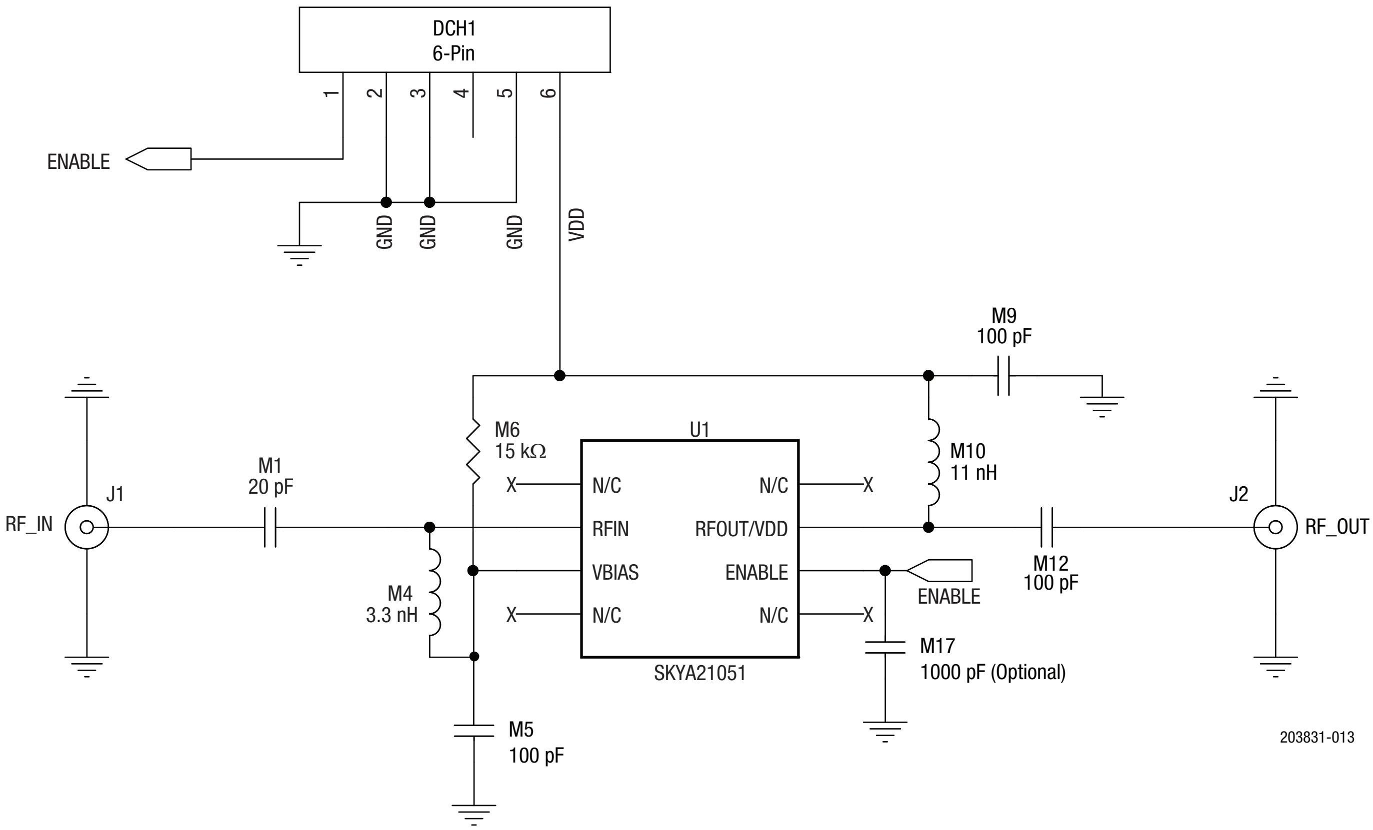


Figure 40. SKYA21051 Evaluation Board Schematic (Optimized for 3400 to 3800 MHz)

Table 11. SKYA21051 Evaluation Board Bill of Materials (3400 to 3800 MHz)

Component	Description	Value	Size	Manufacturer	Part Number
M1	Capacitor	20 pF	0402	muRata GJM	GJM1555C1H200JB01
M4	Inductor	3.3 nH	0402	Coilcraft HP	0402HP-3N3X_L
M5, M9, M12	Capacitor	100 pF	0402	muRata GRM	GRM1555C1H101JA01D
M6 (RBIAS)	Resistor	15 kΩ	0402	Panasonic	Any
M10	Inductor	11 nH	0402	Coilcraft HP	0402HP-11NX_L
M3, M14, M16	Jumper	0 Ω	0402	Panasonic	ERJ-2GE0R00X
M2, M7, M8, M11, M13, M15, M17[1]	DNP				

[1] M17 is optional. It is only needed if the control signal is noisy.

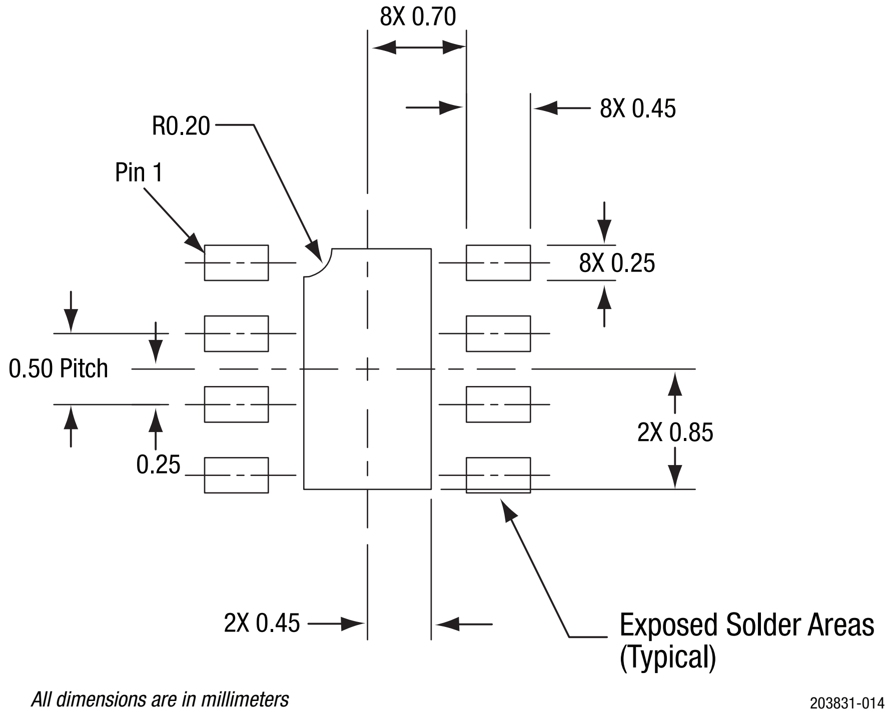
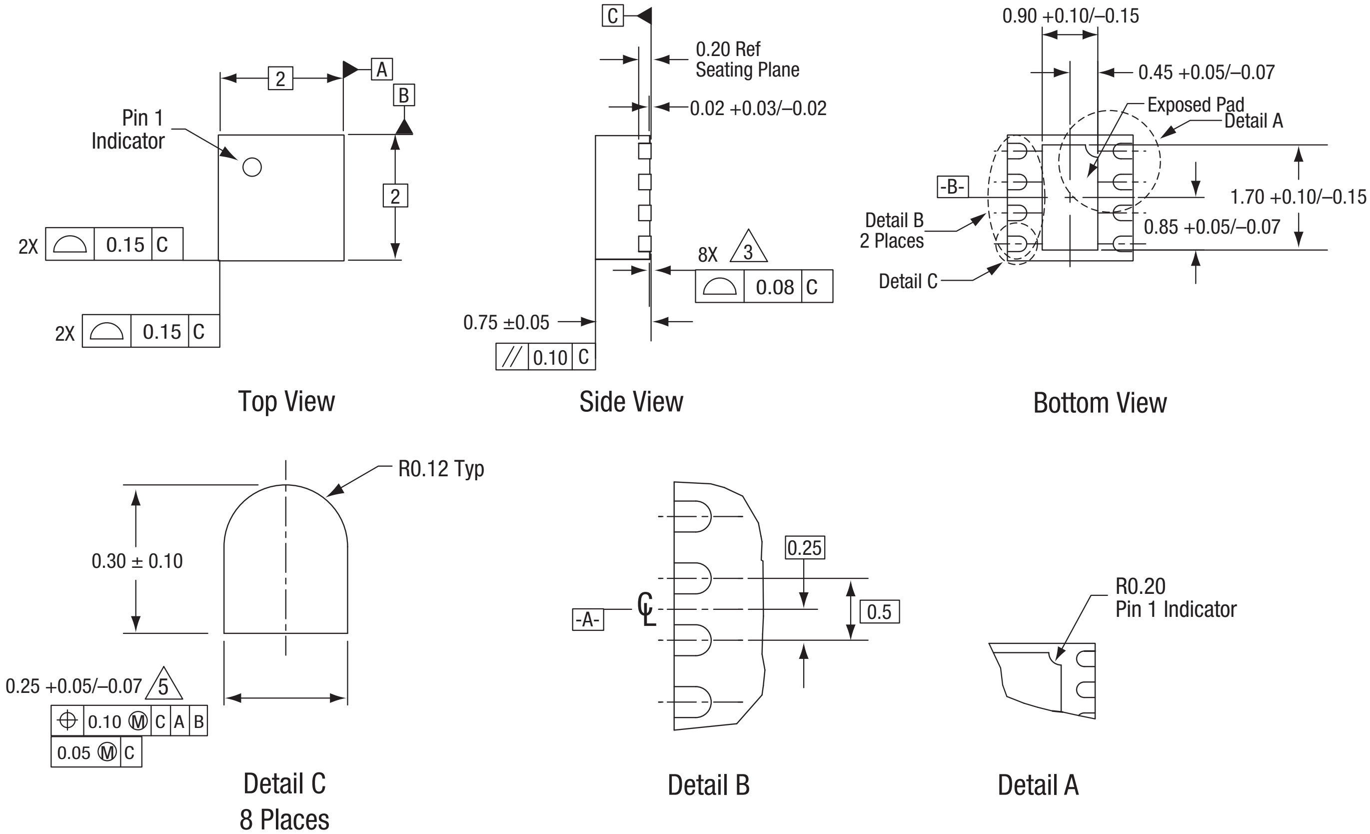


Figure 41. SKYA21051 PCB Layout Footprint (Top View)



Notes:

1. All measurements are in millimeters.
2. Dimensions and tolerances according to ASME Y14.5M-1994.
3. Coplanarity applies to the exposed heat sink ground pad as well as the terminals.
4. Plating requirement per source control drawing (SCD) 2504.
5. Dimension applies to metallized terminal and is measured between 0.15 mm and 0.30 mm from terminal tip.

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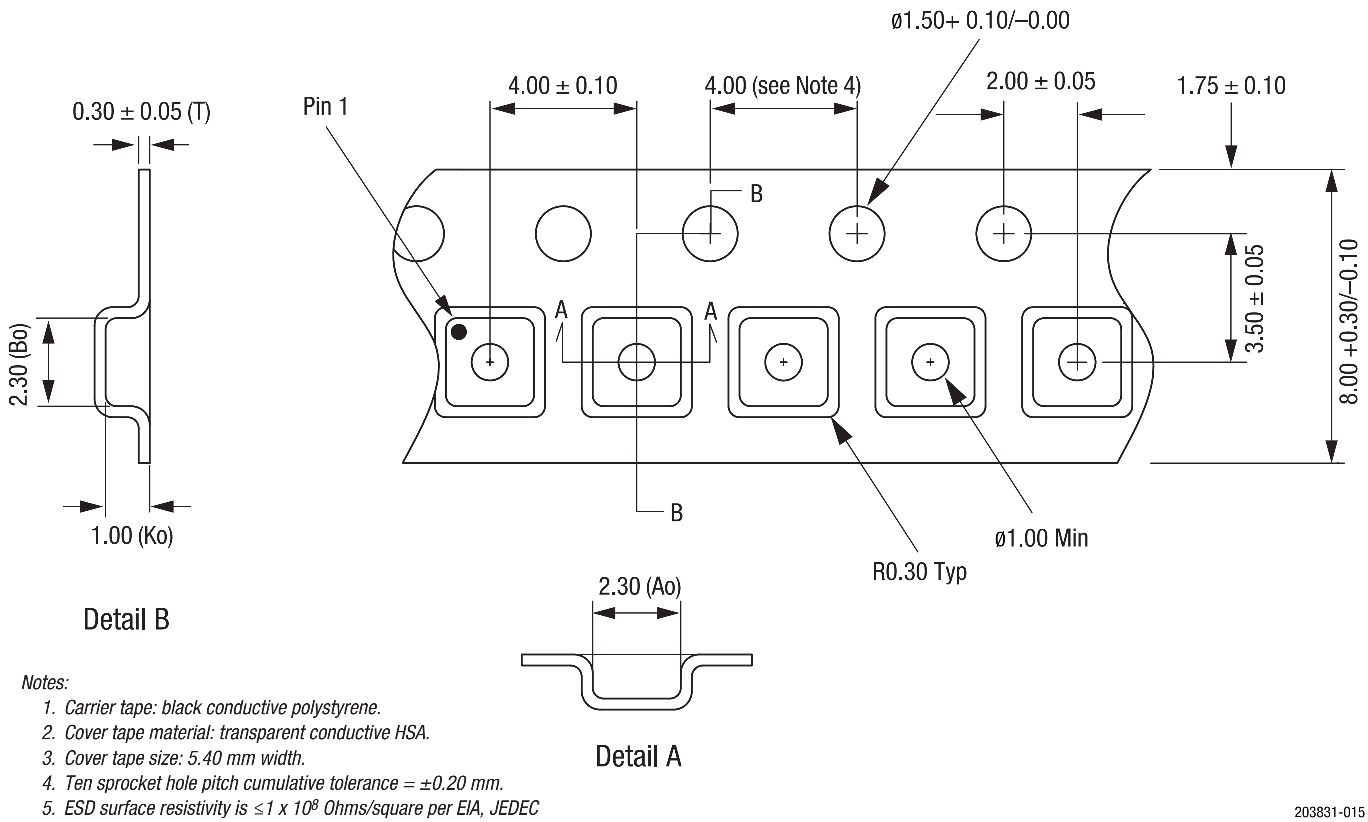
Figure 42. SKYA21051 Package Dimensions



Notes:

1. *Carrier tape: black conductive polystyrene.*
2. *Cover tape material: transparent conductive HSA.*
3. *Cover tape size: 5.40 mm width.*
4. *Ten sprocket hole pitch cumulative tolerance = ±0.20 mm.*
5. *ESD surface resistivity is ≤1 x 10^8 Ohms/square per EIA, JEDEC tape and reel specification.*
6. *Ao and Bo measurement point to be 0.30 mm from bottom pocket.*
7. *All measurements are in millimeters.*

Figure 43. SKYA21051 Tape and Reel Dimensions

Ordering Information

Part Number	Product Description	Evaluation Board Part Number
SKYA21051	200 to 6000 MHz Broadband Low-Noise Amplifier	SKYA21051EK1 (700 to 2700 MHz low frequency range) SKYA21051EK2 (3400 to 3800 MHz next frequency range)