

WS808NKU is an absorptive SP8T RF switch module that supports a frequency range from 10 MHz to 8 GHz. It delivers high isolation, low insertion loss and fast switching time, making this device ideal for RF signal routing in wireless infrastructure and wireless applications up to 8 GHz. External connectors include 2.92mm-vertical launch connector for all RF port.

WS808NKU is powered and controlled through USB type-C connector.



■ Features

- CMOS SOI technology enhanced
 - Broadband 10 MHz~8 GHz
 - Fast settling time
- High power handling of 33 dBm THRU path
- Insertion loss
 - 3.0 dB @ 8 GHz
- High isolation
 - 32 dB up to 8 GHz

■ Applications

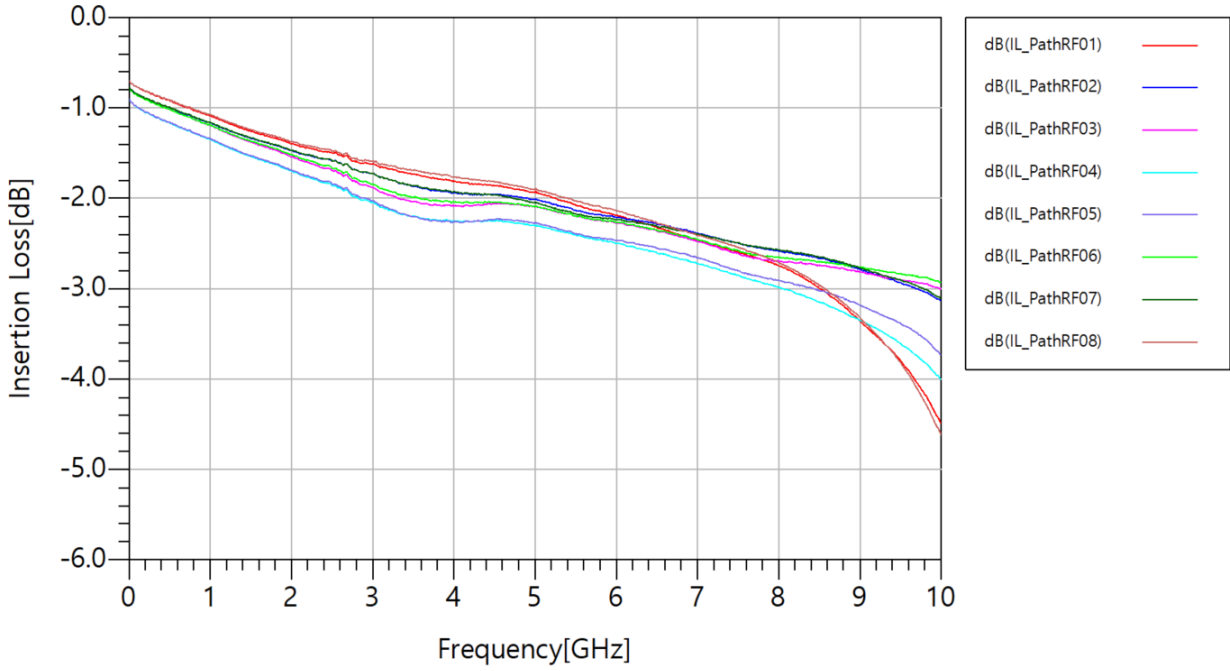
- Test & Measurement
- 5G Wireless Communication
- Commercial Communication
- RF signal routing

Electrical Specifications

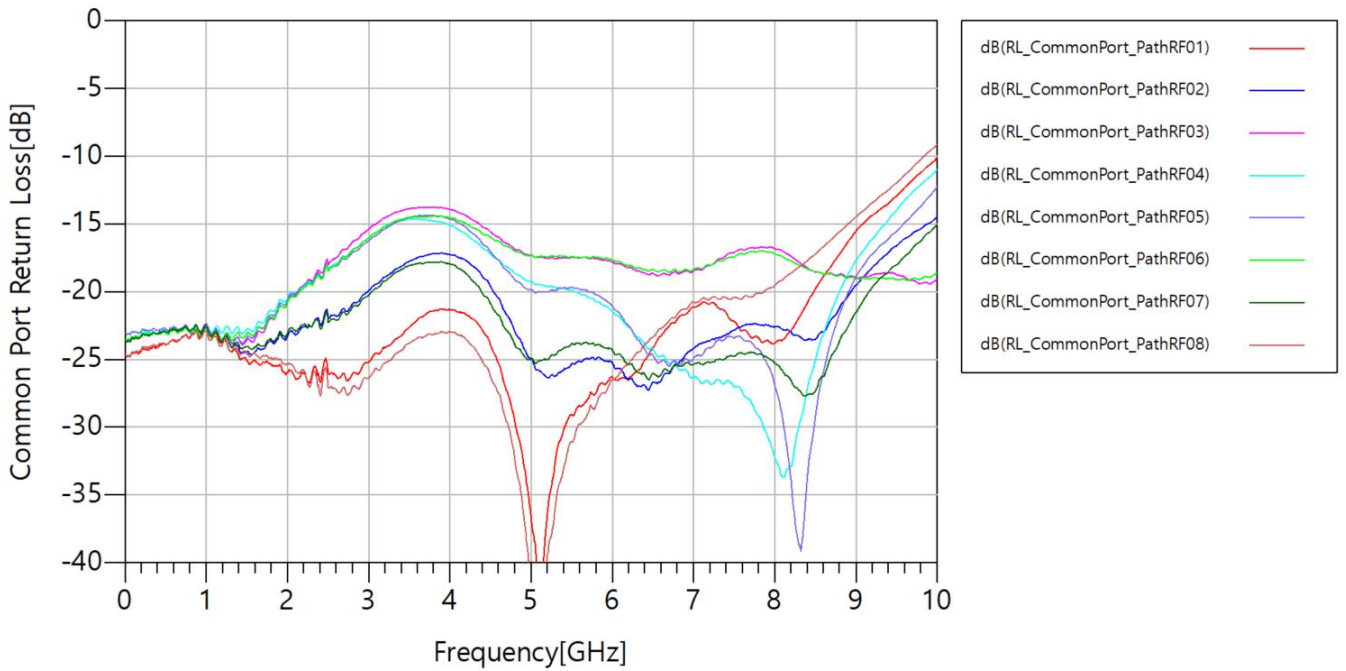
Parameter	Path	Condition	Min	Typ	Max	Unit
Operation Frequency			10 MHz		8 GHz	
Insertion loss	All path	10 MHz ~ 8 GHz		3.0		dB
Return loss (common port)	All path	10 MHz ~ 8 GHz	12.5	13.5		dB
Return loss (active port)	All path	10 MHz ~ 8 GHz	12.5	13.5		dB
Return loss (isolated port)	All path	10 MHz ~ 8 GHz	13.0	14.0		dB
Isolation	All path	10 MHz ~ 8 GHz	30.0	32.0		dB
RF Input Power	All path	10 MHz ~ 8 GHz		33.0		dBm
0.1 dB Power Compression	All path	f = 100 MHz to 8 GHz		35.0		dBm
Input IP3	All path	100 MHz ~ 8 GHz		60.0		dBm
Switching Time		COM port control time @Window10		200		us
Current consumption		USB type-C		14.0		mA
Power Supply		USB type-C		5.0		V
Baud Rate		USB COM port		115200		bps
RF Connectors		2.92mm-female				
ESD HBM		RF port USB port		1.0k 16k		V
Operating Temperature			-40		105	°C

■ Typical Performance Data

< Insertion Loss >

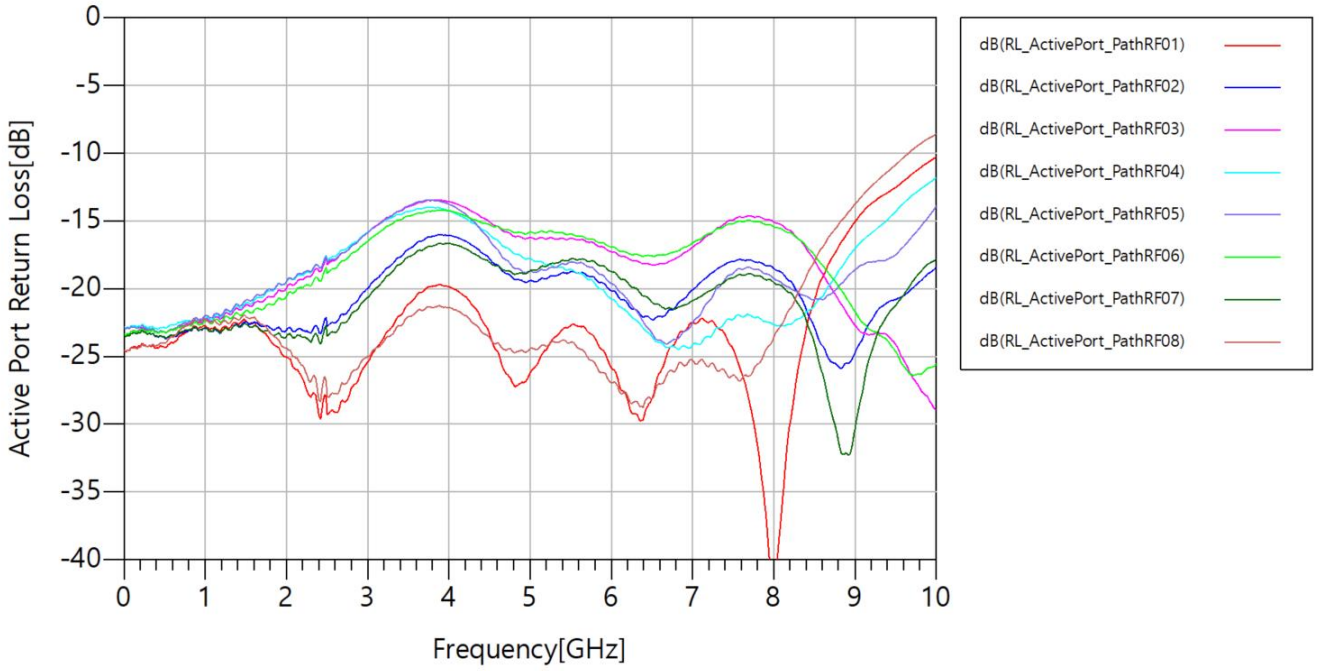


< Common Port Return Loss >

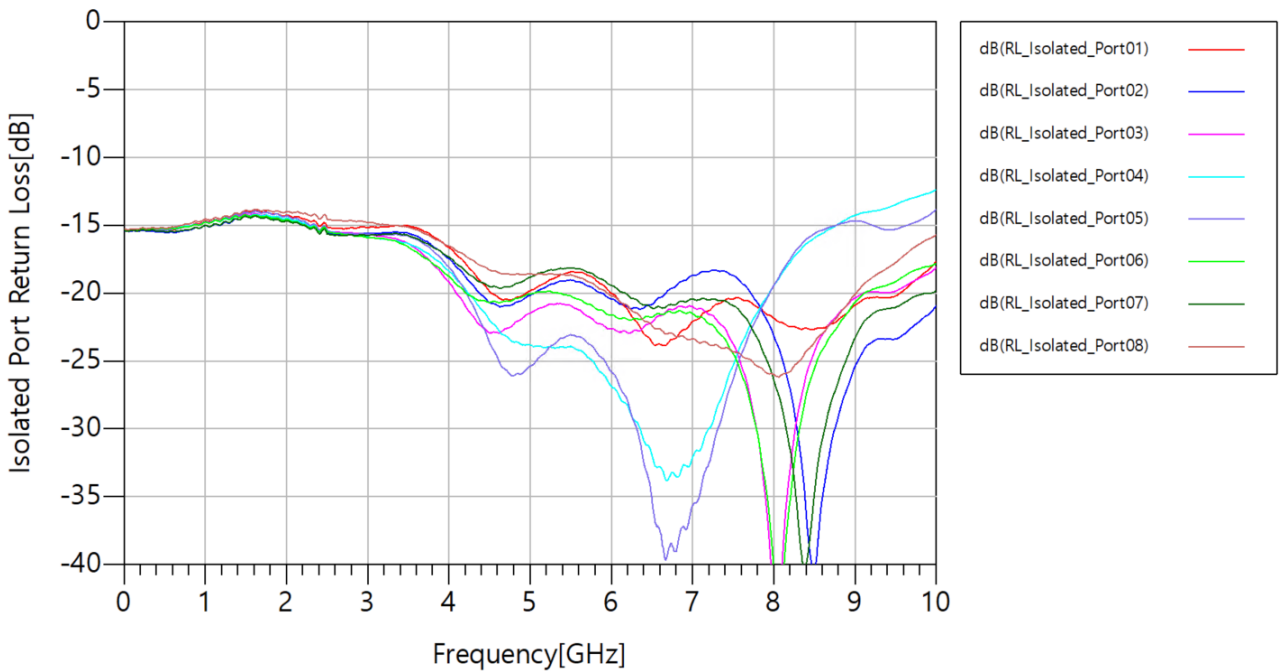


■ **Typical Performance Data**

< Active Port Return Loss >

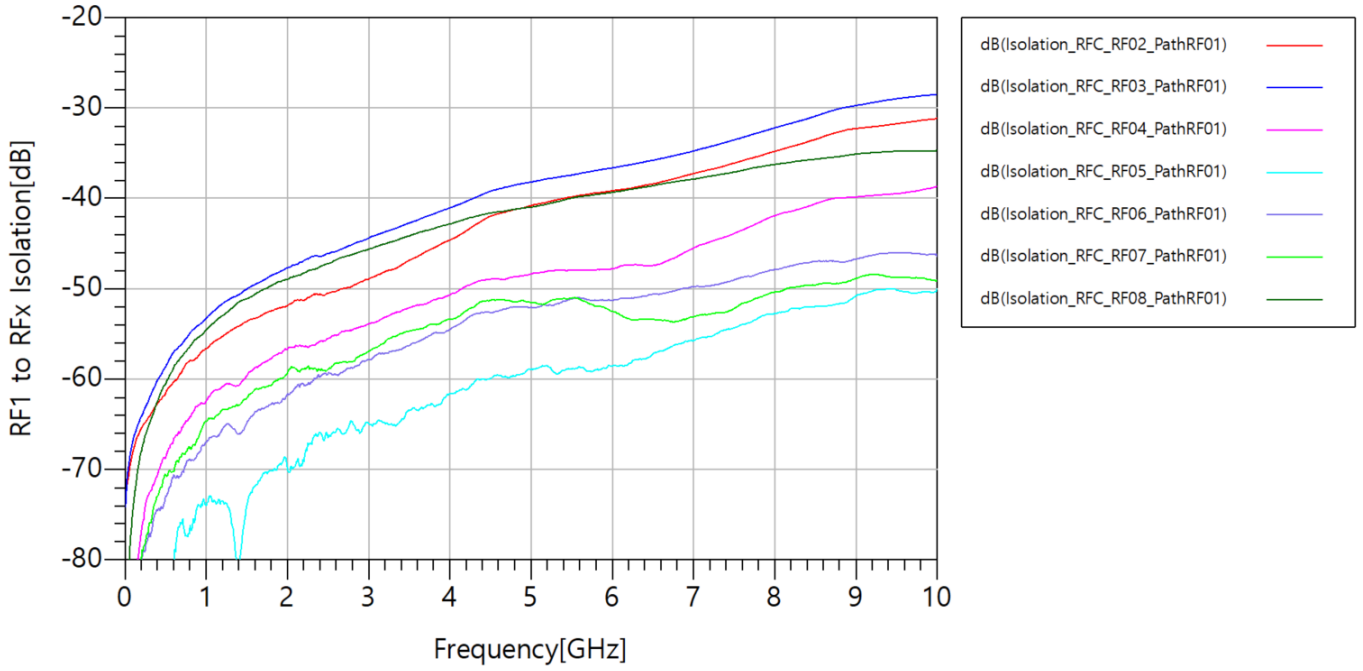


< Isolated Port Return Loss >

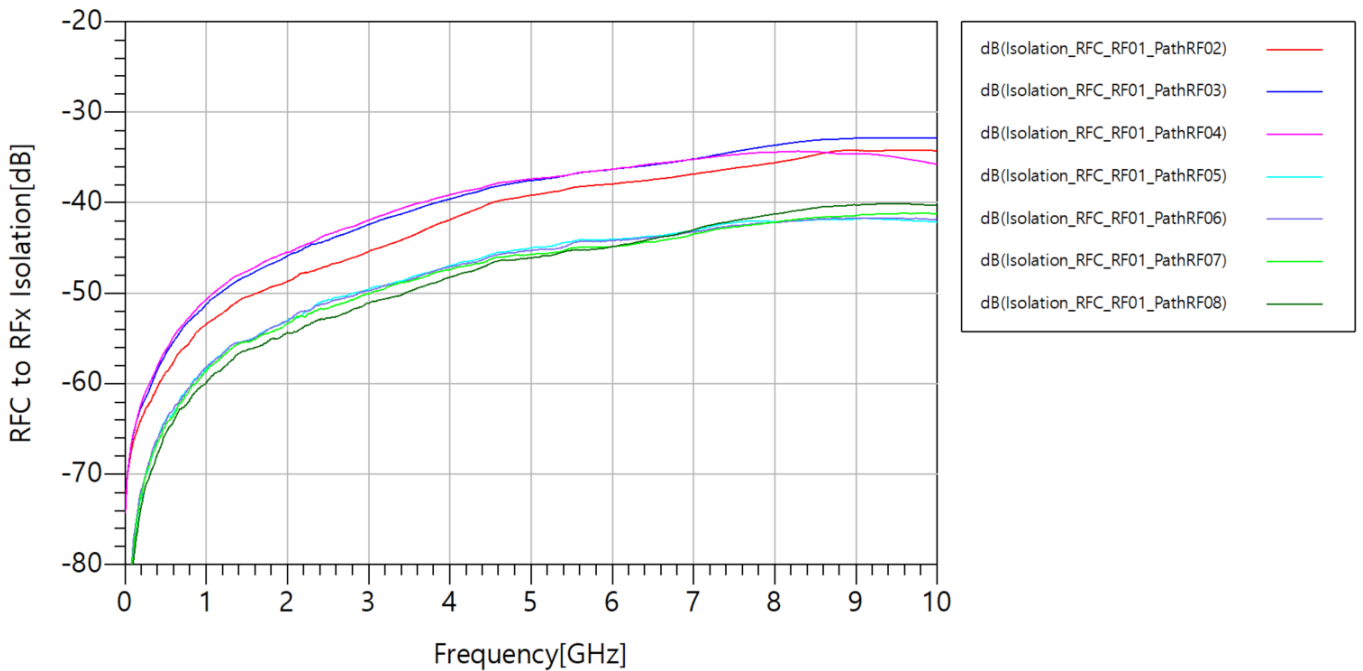


■ Typical Performance Data

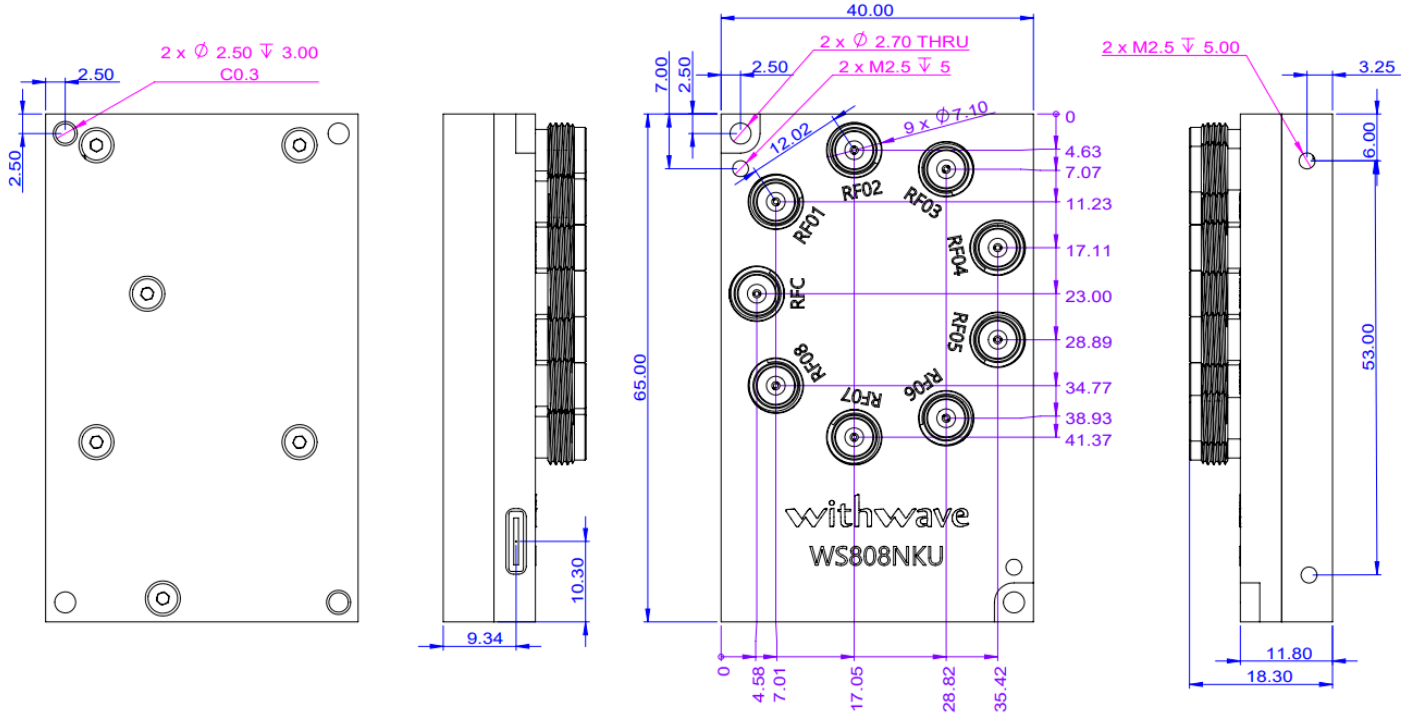
< RFC to RFx Isolation @ PathRF01 >



< RFC to RF01 Isolation @ PathRFx >



Dimension



Control Description

Command Format	COM port configuration
All commands must end with a semicolon. All commands are capitalized only. Port number should be 2-digit decimal.	Baud Rate :115200 Data bits : 8 Parity : None Stop bits : 1 Flow Type :None

Command Specification

Index	Command	Description	Return	Example
1	*IDN?;	Query product information	Product PN, Manufacturer , WS808NKU, Withwave SW version, Serial number co, Ltd., V1.0, SN0001	
2	RESET;	Reset the product	RESET;	RESET;
3	Pxx;	Switching to RFC to RFxx Port number should be 2-digit decimal	Pxx;	P02;
4	OFF;	All off state	OFF;	OFF;

Error Code

Index	Return	Description
1	E1;	Semicolon missing
2	E2;	Incorrect commands

■ **Revision History**

Revision	Date	Changes
Ver 1.0 Ver 1.1	2022-06-02 2023-05-31	Initial work Add switching time