

## iX101T1 NFC Operational Description

### General Description of the Software in 4.0.4 Android

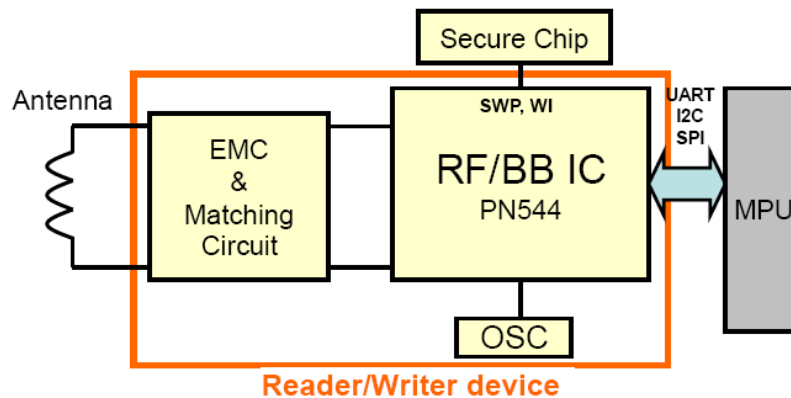
Android Beam is activated by placing devices back to back with the content to be shared displayed on the screen. If the content is able to be sent, the screen will shrink down and display Tap to Beam at the top. Tapping the screen sends the content from the one device to the other. A sound will play when devices are near and able to beam. When the data is sent, a confirmation tone will play or a negative tone will play if failed and the content will shrink off the screen indicating beaming is complete. Sharing is one direction and the device sending content will not get content from the receiving device.

To activate Android Beam, both devices must support NFC (Near field communication) and have it enabled.

Android Beam can be used to send general data such as websites, and other basic data via NFC.

Transmit duration is only as long as it takes to transmit a small amount of data. Larger data is not allowed in Android 4.0.4

### Hardware



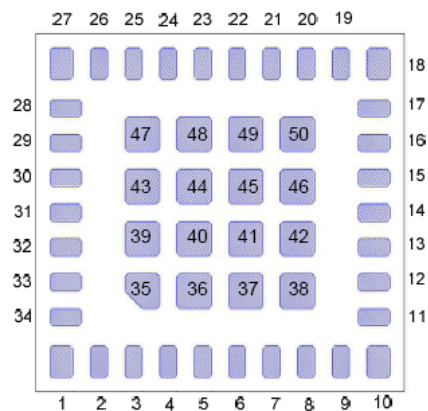
Block Diagram

## Specification

Parameter	Specification
Frequency	13.56MHz
Tag Type	ISO/IEC 14443A,14443B,15693 MIFARE 1K/4K,Ultralight NFC-IP2 protocol
Supply Voltage	3.3V
Supply Voltage for host interface	1.8V

## Pin assignments

TOP View



Pin #	Pin Name	I/O	Description
1	IRQ	O	IRQ output
2	NC/GPIO2	-	Do not connect to Any pins/ General purpose IO
3	SWP(SWIO)	IO	SWP data connection
4	SIMVCC	Power	Power output to supply the UICC
5	PMUVCC	Power	UICC Power in from external PMU
6	PVDD	Power	Pad supply voltage input (VI/O)
7	VBAT	Power	Battery voltage
8	VEN	I	Enable/disable LDO regulator / Reset
9	GND	Ground	Ground
10	VEN_MON	I	Enable of the battery voltage monitor
11	NC	-	Do not connect to Any pins
12	NC	-	Do not connect to Any pins
13	NC	-	Do not connect to Any pins
14	TxANT2	IO	Antenna port 2
15	TxANT1	IO	Antenna port 1
16	NC	-	Do not connect to Any pins

Pin #	Pin Name	I/O	Description
17	NC	-	Do not connect to Any pins
18	NC	-	Do not connect to Any pins
19	SVDD	Power	SE power
20	NC/GPIO6	-	Do not connect to Any pins / General purpose IO
21	SIGOUT	O	NFC-WI data output (Do not connect to GND)
22	NC/ GPIO0	-	Do not connect to Any pins / General purpose IO
23	SIGIN	I	NFC-WI data input
24	NC	-	Do not connect to Any pins
25	GND	Ground	Ground
26	GND	Ground	Ground
27	NC/GPIO4	-	Do not connect to Any pins / General purpose IO
28	VDHF	O	VDHF output
29	IFSEL1	I	Host interface select input 1
30	IFSEL2	I	Host interface select input 2
31	IF0	IO	Host interface pin – functionality depends on selected interface
32	IF1	IO	Host interface pin – functionality depends on selected interface
33	IF2	IO	Host interface pin – functionality depends on selected interface
34	IF3	IO	Host interface pin – functionality depends on selected interface
35-50	GND	Ground	Ground

## Reference Circuit

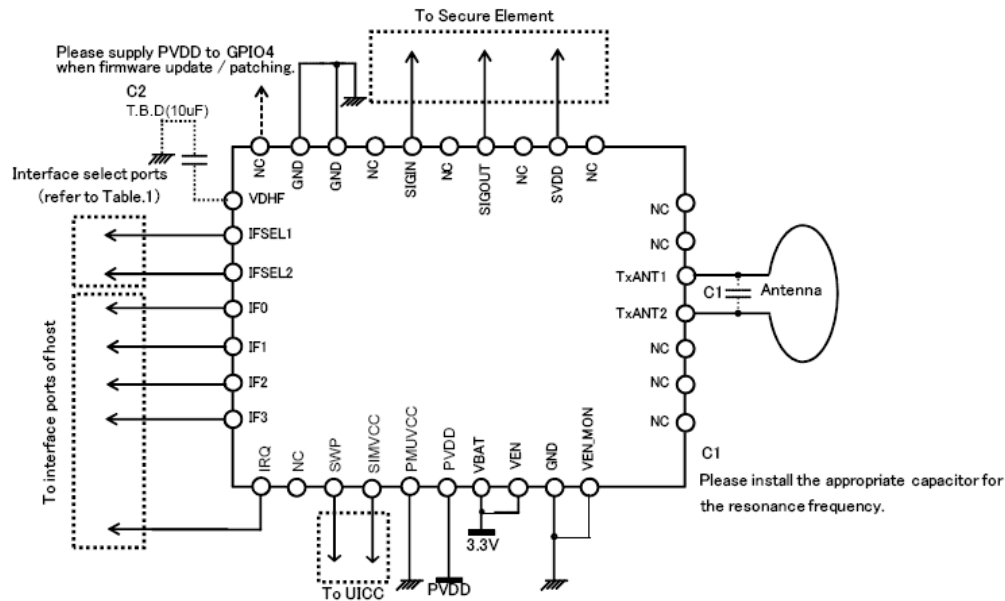


Table.1

IFSEL1	IFSEL2	Interface	IF0	IF1	IF2	IF3
GND	GND	UART	nc	Rx	nc	Tx
PVDD	GND	I2C	ADR1	ADR2	SDA	SCL
GND	PVDD	SPI ※1 ※2	NSS	MOSI	SCK	MISO
PVDD	PVDD	SPI ※1 ※3	NSS	MOSI	SCK	MISO

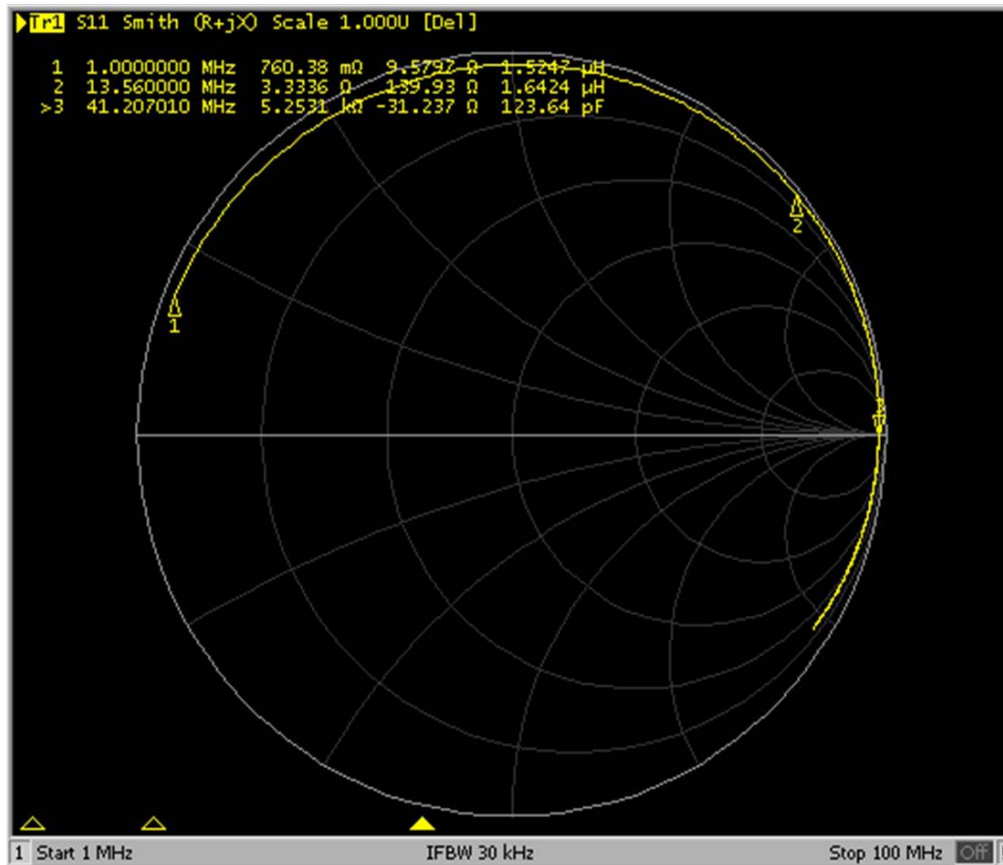
- ※1 Data are sampled on MOSI on the even clock edges of SCK after NSS goes low. MOSI on the odd clock edges is not supported.
- ※2 The clock is idle low, and the first valid edge of SCK will be a rising one.
- ※3 The clock is idle high, and the first valid edge of SCK will be a falling one.

## Antenna Specification

### Output Power

Filed strength of fundamental = 44.47 dBuV/m (-52.9 dBm [ERP])

### Smith Chart



### Antenna Characteristics

Antenna: linear unit annotatio

$L_a = 1.52E-06$  [H] antenna inductance measured at 1MHz

$R_s = 7.60E-01$  [Ω] antenna serial resistance measured at 1MHz

$R_p = 5.25E+03$  [Ω] antenna parallel resistance measured at self resonance frequency of the antenna

$Q_a = 4.99E+01$  calculated quality factor of antenna

## Parts List

Part Name	Material	ET P/N	Finish	Qty
ANTENNA ASSEMBLY	PCB	5000514	Ethertronics	1
P/N: 5000827	FAM	5000828		
Client P/N : AN-5000827	Adhesive	5000824		

## Drawing of internal NFC Antenna

