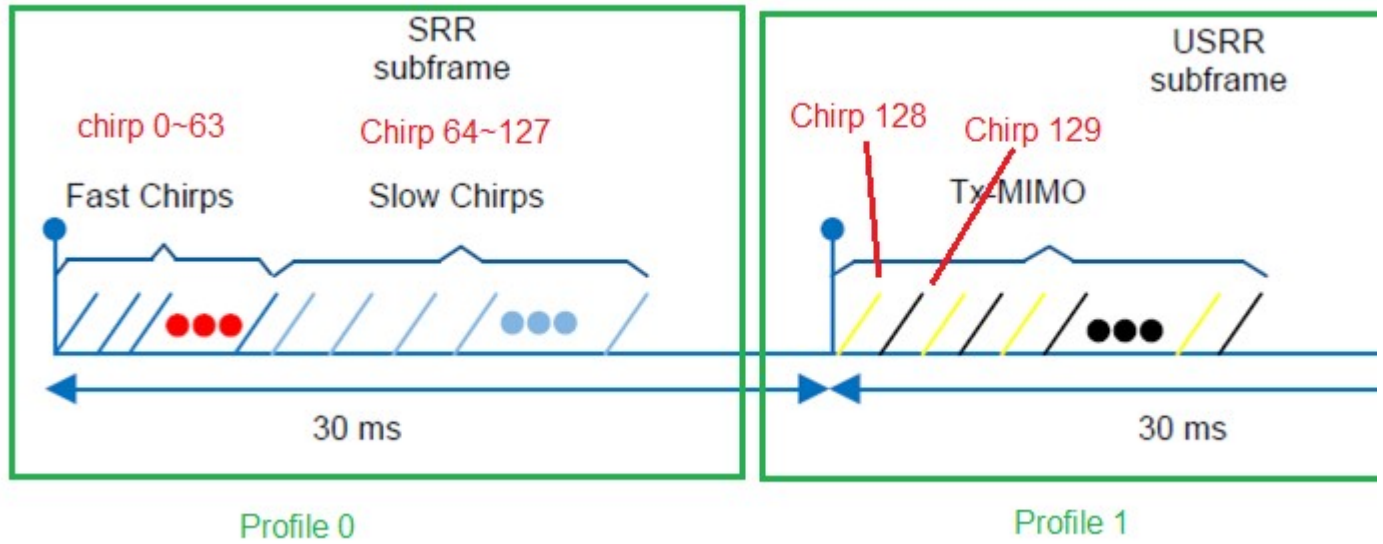


John Chen_陳家宏

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寄件日期: 2019年1月18日星期五 下午 6:04
收件者: john_chen@kusauto.com.cn
主旨: FW: TIDEP0092 setting in mmWave Studio



Profile 0 (SRR) and Profile 1 (USRR)

Profile 0 -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC
 Connection StaticConfig DataConfig TestSource **SensorConfig** IntChirpBlkCtlCfg RegOp Cont

LoadConfig SaveConfig

DCA1000
 TSW1400

SetUp DCA1000

Sensor Configuration

Profile

Profile Id	0	HPF1 Corner Freq	175K
Start Freq (GHz)	76.010000	HPF2 Corner Freq	350K
Frequency Slope (MHz/μs)	8.014	O/p Pwr Backoff TX0 (dB)	0
Idle Time (μs)	3.00	O/p Pwr Backoff TX1 (dB)	0
TX Start Time (μs)	1.00	O/p Pwr Backoff TX2 (dB)	0
ADC Start Time (μs)	4.79	Phase Shifter TX0 (deg)	0.0
ADC Samples	256	Phase Shifter TX1 (deg)	0.0
Sample Rate (ksps)	5000	Phase Shifter TX2 (deg)	0.0
Ramp End Time (μs)	56.00	Bandwidth(MHz)	448.78
RX Gain (dB)	34	Set	Manage Profile
RF Gain Target	34dB		
VCO Select	VCO1	<input type="checkbox"/> Force VCO Select	
Calib LUT Update	<input type="checkbox"/> RetainTxCalLUT <input type="checkbox"/> RetainRxCalLUT		

Chirp

Profile Id	0	Frequency Slope Var (MHz/μs)	0.000
Start Chirp for Cfg	0	Idle Time Var (μs)	0.00
End Chirp for Cfg	0	ADC Start Var (μs)	0.00
Start Freq Var (MHz)	0.000000	TX Enable for current chirp	
		<input checked="" type="checkbox"/> TX0 <input checked="" type="checkbox"/> TX1 <input type="checkbox"/> TX2	
		Set	Manage Chirps

Frame

Start Chirp TX

End Chirp TX

No of Frames

Trigger Select

Test Source E

Turn OFF TX
 Idle Time
 Turn ON TX
 Freq Start
 BLUE = I
 BLACK = Q
 ORANGE = TX
 Capture
 DCA10 ARM
 Dump File

Run! Pause C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua

Profile 1 -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC

Connection StaticConfig DataConfig TestSource SensorConfig IntChirpBlkCtlCfg RegOp Cont

LoadConfig

SaveConfig

DCA1000

TSW1400

SetUp DCA1000

Sensor Configuration

Profile

Profile Id	1	HPF1 Corner Freq	175K
Start Freq (GHz)	77.010000	HPF2 Corner Freq	350K
Frequency Slope (MHz/μs)	42.003	O/p Pwr Backoff TX0 (dB)	0
Idle Time (μs)	7.00	O/p Pwr Backoff TX1 (dB)	0
TX Start Time (μs)	1.00	O/p Pwr Backoff TX2 (dB)	0
ADC Start Time (μs)	4.80	Phase Shifter TX0 (deg)	0.0
ADC Samples	512	Phase Shifter TX1 (deg)	0.0
Sample Rate (ksps)	6222	Phase Shifter TX2 (deg)	0.0
Ramp End Time (μs)	87.28	Bandwidth(MHz)	3666.02
RX Gain (dB)	34	Set Manage Profile	
RF Gain Target	34dB		
VCO Select	VCO1	<input type="checkbox"/> Force VCO Select	
Calib LUT Update	<input type="checkbox"/> RetainTxCalLUT <input type="checkbox"/> RetainRxCalLUT		

Chirp

Profile Id	0	Frequency Slope Var (MHz/μs)	0.000
Start Chirp for Cfg	0	Idle Time Var (μs)	0.00
End Chirp for Cfg	0	ADC Start Var (μs)	0.00
Start Freq Var (MHz)	0.000000	TX Enable for current chirp	
<input checked="" type="checkbox"/> TX0 <input checked="" type="checkbox"/> TX1 <input type="checkbox"/> TX2			
Set Manage Chirps			

Frame

Start Chirp TX

End Chirp TX

No of Frames

Trigger Select

Test Source E

Turn OFF TX

Idle Time

Turn ON TX

Freq Start

BLUE = I

BLACK = Q

ORANGE = R

Capture

DCA1000 ARM

Dump File

Run! Pause C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua

Four Chirp

Chirp 0~63, Chirp 64~127 為 SRR 的 Chirp
Chirp 128, Chirp 129 為 USRR 的 Chirp

Chirp 0~63 is profile 0, 使用 TX0 (Fast Chirp) -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC

Connection StaticConfig DataConfig TestSource SensorConfig IntChirpBlkCtlCfg RegOp Cont

LoadConfig

SaveConfig

DCA1000

TSW1400

SetUp DCA1000

Sensor Configuration

Profile

Profile Id	1	HPF1 Corner Freq	175K
Start Freq (GHz)	77.010000	HPF2 Corner Freq	350K
Frequency Slope (MHz/μs)	42.003	O/p Pwr Backoff TX0 (dB)	0
Idle Time (μs)	7.00	O/p Pwr Backoff TX1 (dB)	0
TX Start Time (μs)	1.00	O/p Pwr Backoff TX2 (dB)	0
ADC Start Time (μs)	4.80	Phase Shifter TX0 (deg)	0.0
ADC Samples	512	Phase Shifter TX1 (deg)	0.0
Sample Rate (ksps)	6222	Phase Shifter TX2 (deg)	0.0
Ramp End Time (μs)	87.28	Bandwidth(MHz)	3666.02
RX Gain (dB)	34	Set	Manage Profile
RF Gain Target	34dB		
VCO Select	VCO1	<input type="checkbox"/> Force VCO Select	
Calib LUT Update	<input type="checkbox"/> RetainTxCalLUT	<input type="checkbox"/> RetainRxCalLUT	

Chirp

Profile Id	0	Frequency Slope Var (MHz/μs)	0.000
Start Chirp for Cfg	0	Idle Time Var (μs)	0.00
End Chirp for Cfg	63	ADC Start Var (μs)	0.00
Start Freq Var (MHz)	0.000000	TX Enable for current chirp	
		<input checked="" type="checkbox"/> TX0	<input type="checkbox"/> TX1
		<input type="checkbox"/> TX2	
		Set	Manage Chirps

Frame

Start Chirp TX

End Chirp TX

No of Frames

Trigger Select

Test Source E

Run! Pause C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua

Chirp 64~127 is profile 0, Use TX0 (Slow chirp, idle time is longer) -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC
 Connection StaticConfig DataConfig TestSource SensorConfig IntChirpBlkCtlCfg RegOp Cont

LoadConfig SaveConfig

DCA1000
 TSW1400

SetUp DCA1000

Sensor Configuration Profile

Profile Id	1	HPF1 Corner Freq	175K
Start Freq (GHz)	77.010000	HPF2 Corner Freq	350K
Frequency Slope (MHz/μs)	42.003	O/p Pwr Backoff TX0 (dB)	0
Idle Time (μs)	7.00	O/p Pwr Backoff TX1 (dB)	0
TX Start Time (μs)	1.00	O/p Pwr Backoff TX2 (dB)	0
ADC Start Time (μs)	4.80	Phase Shifter TX0 (deg)	0.0
ADC Samples	512	Phase Shifter TX1 (deg)	0.0
Sample Rate (ksps)	6222	Phase Shifter TX2 (deg)	0.0
Ramp End Time (μs)	87.28	Bandwidth(MHz)	3666.02
RX Gain (dB)	34	Set	Manage Profile
RF Gain Target	34dB		
VCO Select	VCO1	<input type="checkbox"/> Force VCO Select	
Calib LUT Update	<input type="checkbox"/> RetainTxCalLUT <input type="checkbox"/> RetainRxCalLUT		

Chirp

Profile Id	0	Frequency Slope Var (MHz/μs)	0.000
Start Chirp for Cfg	64	Idle Time Var (μs)	11.80
End Chirp for Cfg	127	ADC Start Var (μs)	0.00
Start Freq Var (MHz)	0.000000	TX Enable for current chirp	<input checked="" type="checkbox"/> TX0 <input type="checkbox"/> TX1 <input type="checkbox"/> TX2
		Set	Manage Chirps

Frame

Start Chirp TX

End Chirp TX

No of Frames

Trigger Select

Test Source E

Chirp 128 and Chirp 129 are USRR chirp

Chirp 128 and profile 1, Use TX0 -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC

Connection StaticConfig DataConfig TestSource SensorConfig IntChirpBlkCtlCfg RegOp Cont

LoadConfig

SaveConfig

DCA1000

TSW1400

SetUp DCA1000

Sensor Configuration

Profile

Profile Id	1	HPF1 Corner Freq	175K
Start Freq (GHz)	77.010000	HPF2 Corner Freq	350K
Frequency Slope (MHz/μs)	42.003	O/p Pwr Backoff TX0 (dB)	0
Idle Time (μs)	7.00	O/p Pwr Backoff TX1 (dB)	0
TX Start Time (μs)	1.00	O/p Pwr Backoff TX2 (dB)	0
ADC Start Time (μs)	4.80	Phase Shifter TX0 (deg)	0.0
ADC Samples	512	Phase Shifter TX1 (deg)	0.0
Sample Rate (ksps)	6222	Phase Shifter TX2 (deg)	0.0
Ramp End Time (μs)	87.28	Bandwidth(MHz)	3666.02
RX Gain (dB)	34	Set	Manage Profile
RF Gain Target	34dB		
VCO Select	VCO1	<input type="checkbox"/> Force VCO Select	
Calib LUT Update	<input type="checkbox"/> RetainTxCalLUT <input type="checkbox"/> RetainRxCalLUT		

Chirp

Profile Id	1	Frequency Slope Var (MHz/μs)	0.000
Start Chirp for Cfg	128	Idle Time Var (μs)	0.00
End Chirp for Cfg	128	ADC Start Var (μs)	0.00
Start Freq Var (MHz)	0.000000	TX Enable for current chirp	<input checked="" type="checkbox"/> TX0 <input type="checkbox"/> TX1 <input type="checkbox"/> TX2
		Set	Manage Chirps

Frame

Start Chirp TX

End Chirp TX

No of Frames

Trigger Select

Test Source E

Run! Pause C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua

Chirp 129 is profile 1, Use TX1 -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC

Connection StaticConfig DataConfig TestSource SensorConfig IntChirpBlkCtlCfg RegOp Cont

LoadConfig

SaveConfig

DCA1000

TSW1400

SetUp DCA1000

Sensor Configuration

Profile

Profile Id	1	HPF1 Corner Freq	175K
Start Freq (GHz)	77.010000	HPF2 Corner Freq	350K
Frequency Slope (MHz/μs)	42.003	O/p Pwr Backoff TX0 (dB)	0
Idle Time (μs)	7.00	O/p Pwr Backoff TX1 (dB)	0
TX Start Time (μs)	1.00	O/p Pwr Backoff TX2 (dB)	0
ADC Start Time (μs)	4.80	Phase Shifter TX0 (deg)	0.0
ADC Samples	512	Phase Shifter TX1 (deg)	0.0
Sample Rate (ksps)	6222	Phase Shifter TX2 (deg)	0.0
Ramp End Time (μs)	87.28	Bandwidth(MHz)	3666.02
RX Gain (dB)	34	Set	Manage Profile
RF Gain Target	34dB		
VCO Select	VCO1	<input type="checkbox"/> Force VCO Select	
Calib LUT Update	<input type="checkbox"/> RetainTxCalLUT	<input type="checkbox"/> RetainRxCalLUT	

Chirp

Profile Id	1	Frequency Slope Var (MHz/μs)	0.000
Start Chirp for Cfg	129	Idle Time Var (μs)	0.00
End Chirp for Cfg	129	ADC Start Var (μs)	0.00
Start Freq Var (MHz)	0.000000	TX Enable for current chirp	
		<input type="checkbox"/> TX0 <input checked="" type="checkbox"/> TX1 <input type="checkbox"/> TX2	
		Set	Manage Chirps

Frame

Start Chirp TX

End Chirp TX

No of Frames

Trigger Select

Test Source E

Turn OFF TX

Idle Time

Turn

Freq Start

TX

BLUE =

BLACK =

ORANGE

Capture :

DCA10 ARM

Dump Fil

Run! Pause C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua

Sub Frame -> Set

mmWave Studio 1.0.0.0

File View Tools ToolBars Window Help

Output RadarAPI

AnalogRxMon DCBISTMon TxRxGainTemp MSSMon DynamicChirpCfg ClockOutCfg CalibDataC
 Connection StaticConfig DataConfig TestSource SensorConfig IntChirpBlkCtlCfg RegOp Cont

LoadConfig

SaveConfig

DCA1000
 TSW1400

SetUp DCA1000

Frame Configuration

NumFrames 0

NumSubFrames 2

TriggerSelect Software Trigger HardwareTrigger Sub-Frame Trig

TriggerDelay (μs) 0.00

ForceProfile

Loop Bk Sub Frame Id 3 LoopBackEn

Sub Frame Configuration

	SubFrame1	SubFrame2	SubFrame3
ForceProfileIdx	0	0	0
ChirpStartIdx	0	128	0
NumChirps	128	2	1
NumLoops	1	32	128
BurstPeriod (ms)	30.000000	30.000000	40.000000
ChirpStartIdxOffset	0	0	0
NumBurst	1	1	1
NumBurstLoops	1	1	1
SubFramePeriod (ms)	30.000000	30.000000	40.000000
ChirpsPerDataPkt	1	1	1

Test Source Enable

Run! Pause C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua

mmWave Studio Log

The screenshot shows the mmWave Studio 1.0.0.0 application window. The title bar reads "mmWave Studio 1.0.0.0". The menu bar includes "File", "View", "Tools", "ToolBars", "Window", and "Help". Below the menu bar, there are two tabs: "Output" and "RadarAPI". The "Output" tab is active, displaying a list of log messages. The messages are timestamped and show the execution of various RadarAPI functions, each followed by a "Status: Passed" message. The functions include arl.ProfileConfig, arl.ChirpConfig, arl.DisableTestSource, and arl.AdvanceFrameConfig. The messages are as follows:

```
[14:25:04] [RadarAPI]: arl.ProfileConfig(0, 76.01, 3, 4.79, 56, 0, 0, 0, 0, 0, 0, 0, 8.0:
[14:25:04] [RadarAPI]: Status: Passed
[14:28:47] [RadarAPI]: arl.ProfileConfig(1, 77.01, 7, 4.8, 87.28, 0, 0, 0, 0, 0, 0, 0, 4:
[14:28:47] [RadarAPI]: Status: Passed
[14:36:40] [RadarAPI]: arl.ChirpConfig(0, 63, 0, 0, 0, 0, 0, 1, 0, 0)
[14:36:40] [RadarAPI]: Status: Passed
[14:39:26] [RadarAPI]: arl.ChirpConfig(64, 127, 0, 0, 0, 11.8, 0, 1, 0, 0)
[14:39:26] [RadarAPI]: Status: Passed
[14:47:11] [RadarAPI]: arl.ChirpConfig(128, 128, 1, 0, 0, 0, 0, 1, 0, 0)
[14:47:11] [RadarAPI]: Status: Passed
[14:59:39] [RadarAPI]: arl.ChirpConfig(129, 129, 1, 0, 0, 0, 0, 0, 1, 0)
[14:59:39] [RadarAPI]: Status: Passed
[15:07:42] [RadarAPI]: arl.DisableTestSource(0)
[15:07:42] [RadarAPI]: Status: Passed
[15:07:42] [RadarAPI]: arl.AdvanceFrameConfig(2, 1536, 0, 0, 128, 1, 6000000, 0, 1, 1,
8000000, 0, 1, 1, 8000000, 0, 0, 1, 128, 8000000, 0, 1, 1, 8000000, 0, 1, 0, 2, 128, 51:
[15:07:42] [RadarAPI]: Status: Passed
```

At the bottom of the window, there is a status bar with a "Run!" button, a "Pause" button, and the file path: "C:\ti\mmwave_studio_01_00_00_00\mmWaveStudio\Scripts\DataCaptureDemo_xWR.lua".