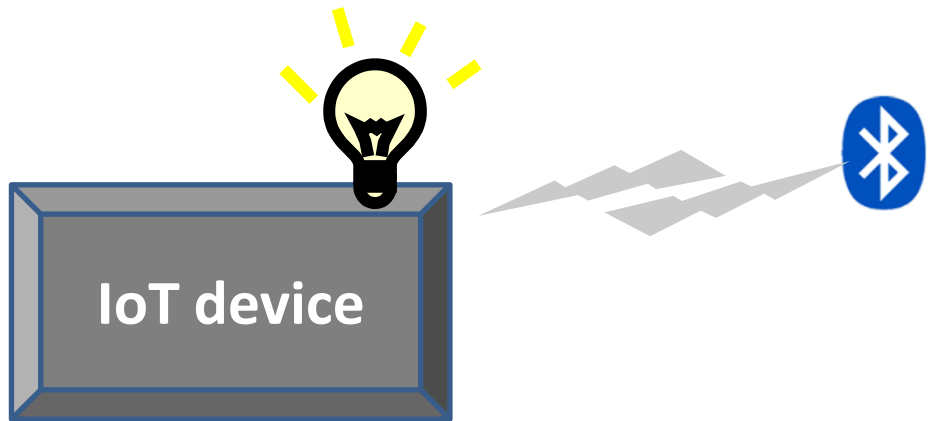
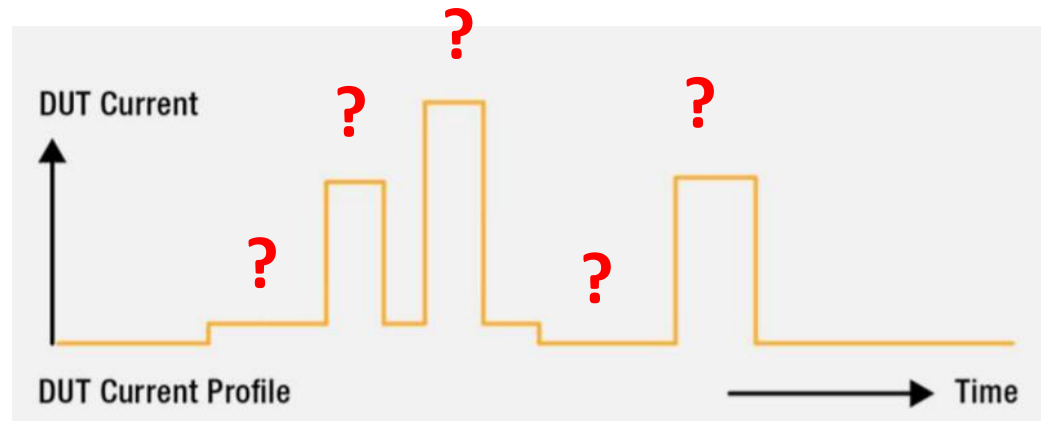
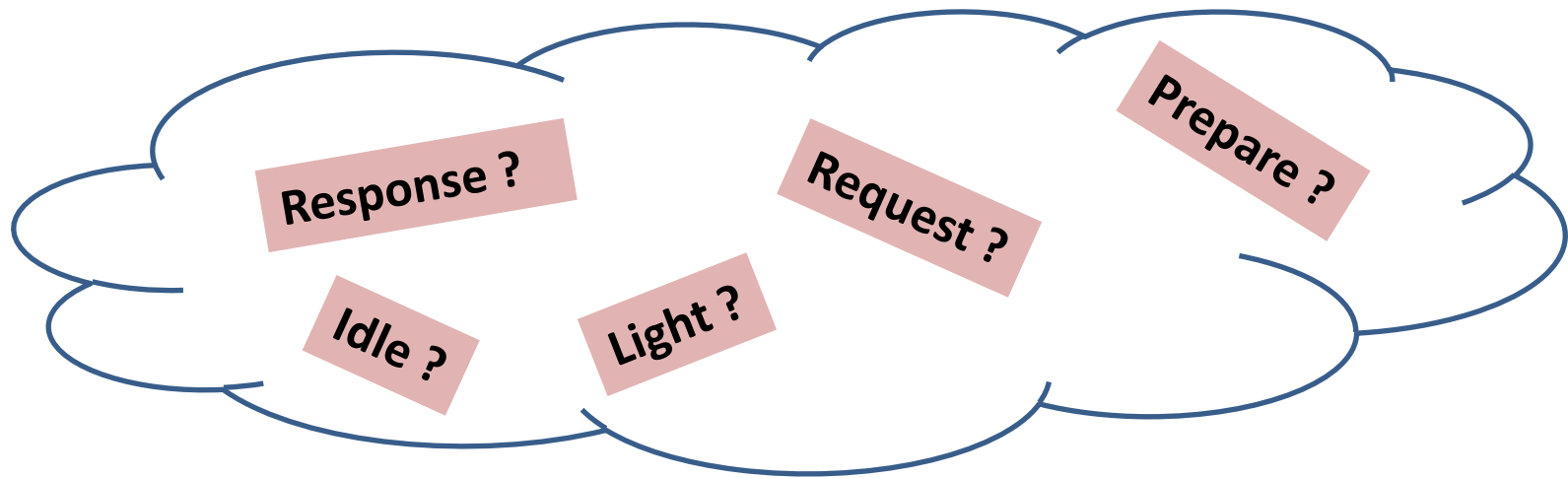
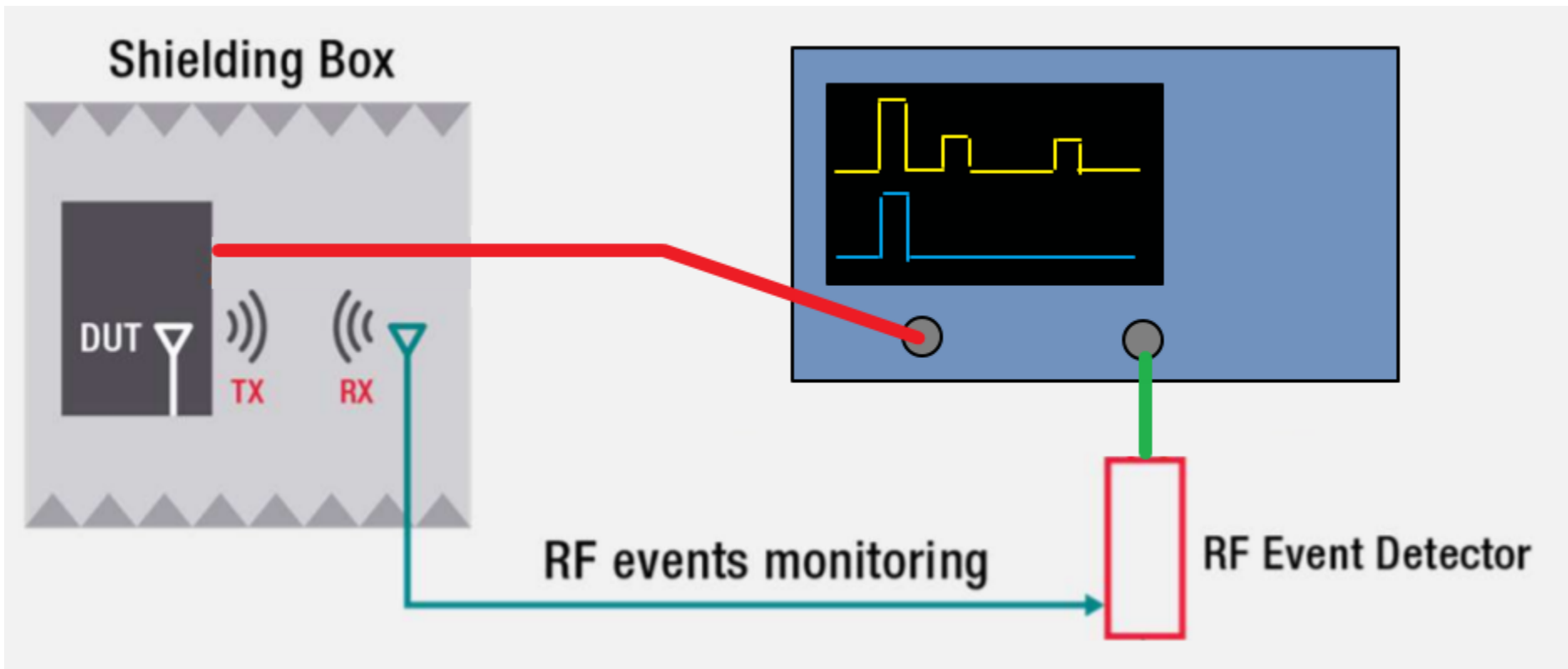


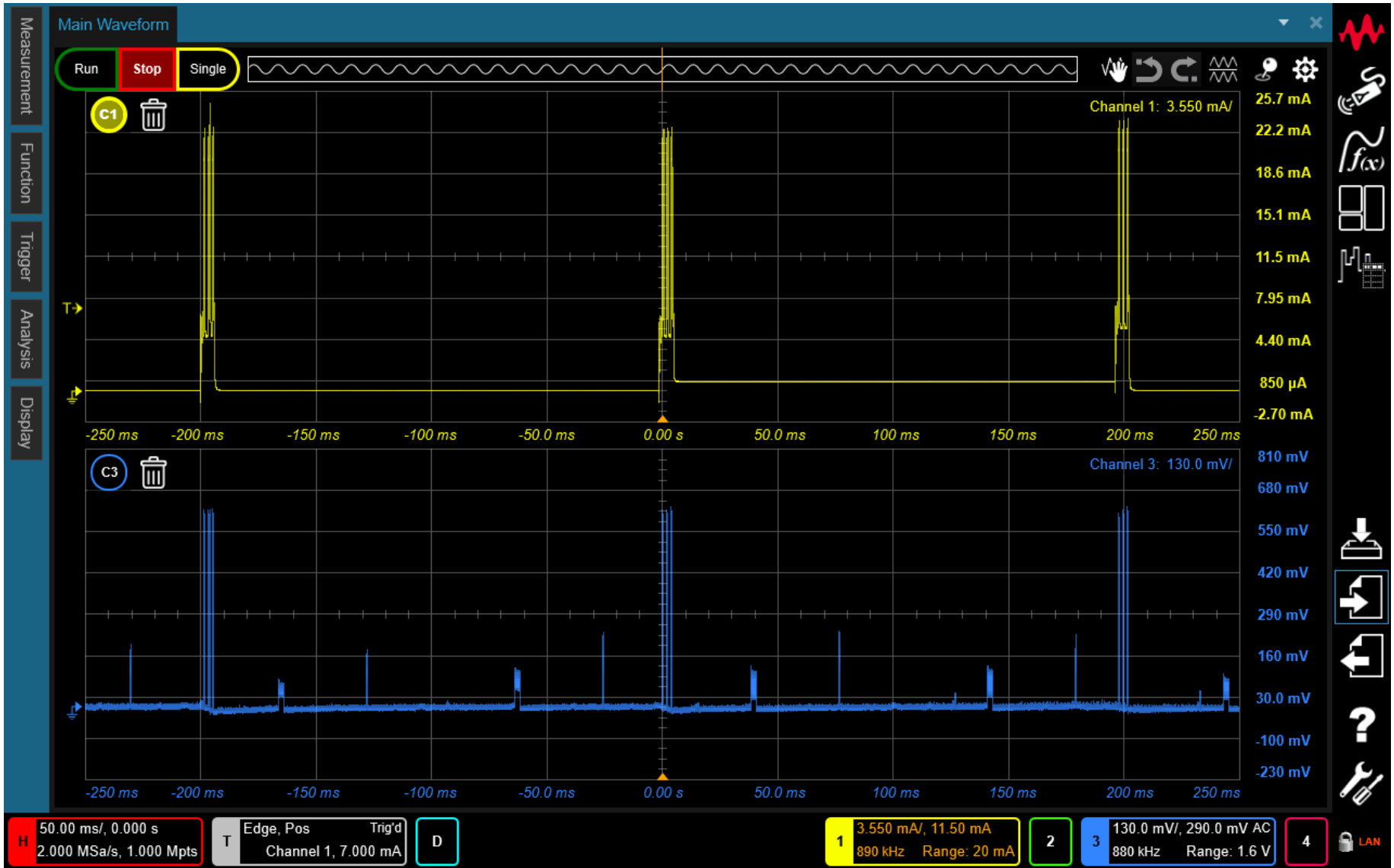
Verify TX power consumption of RF device

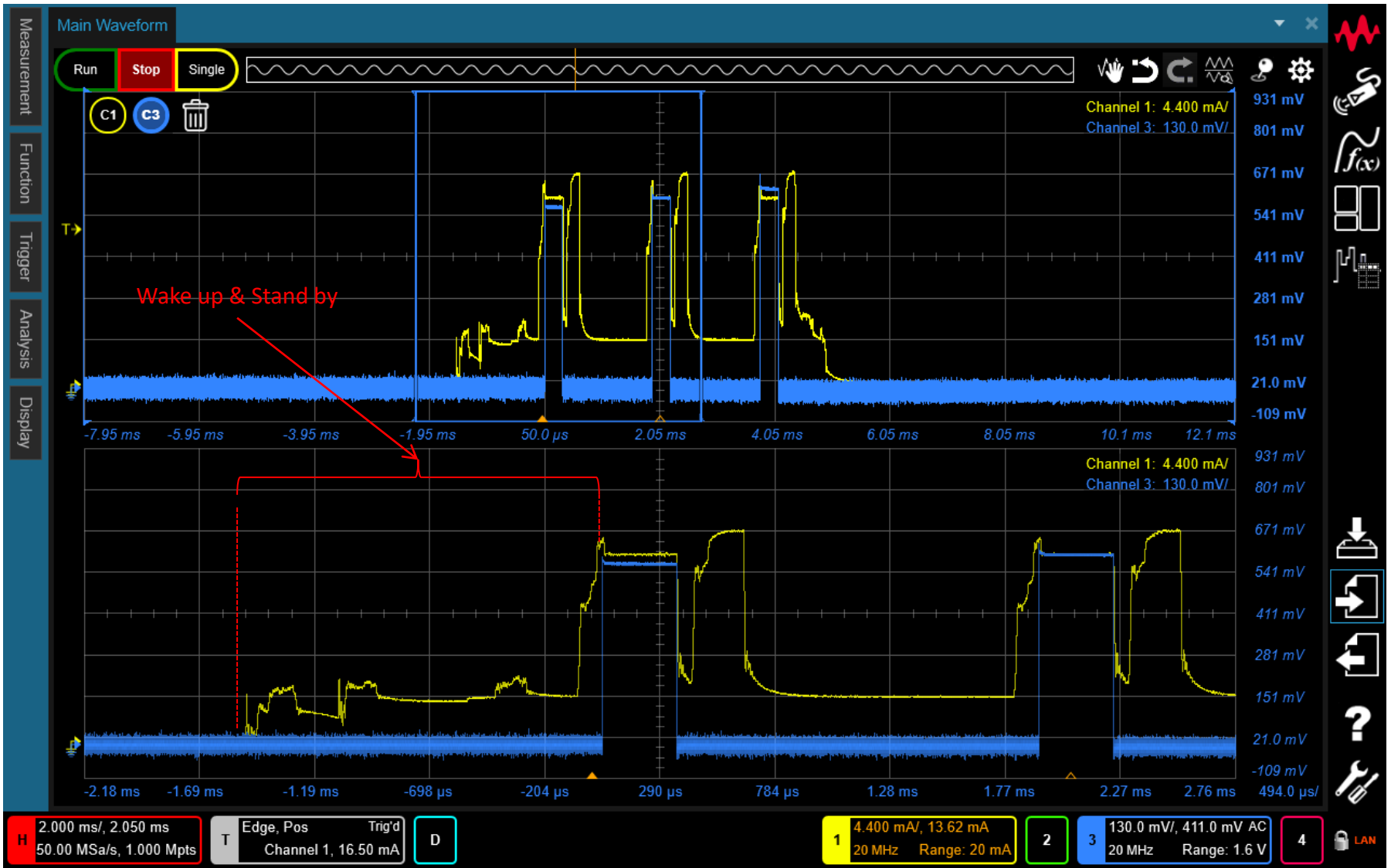


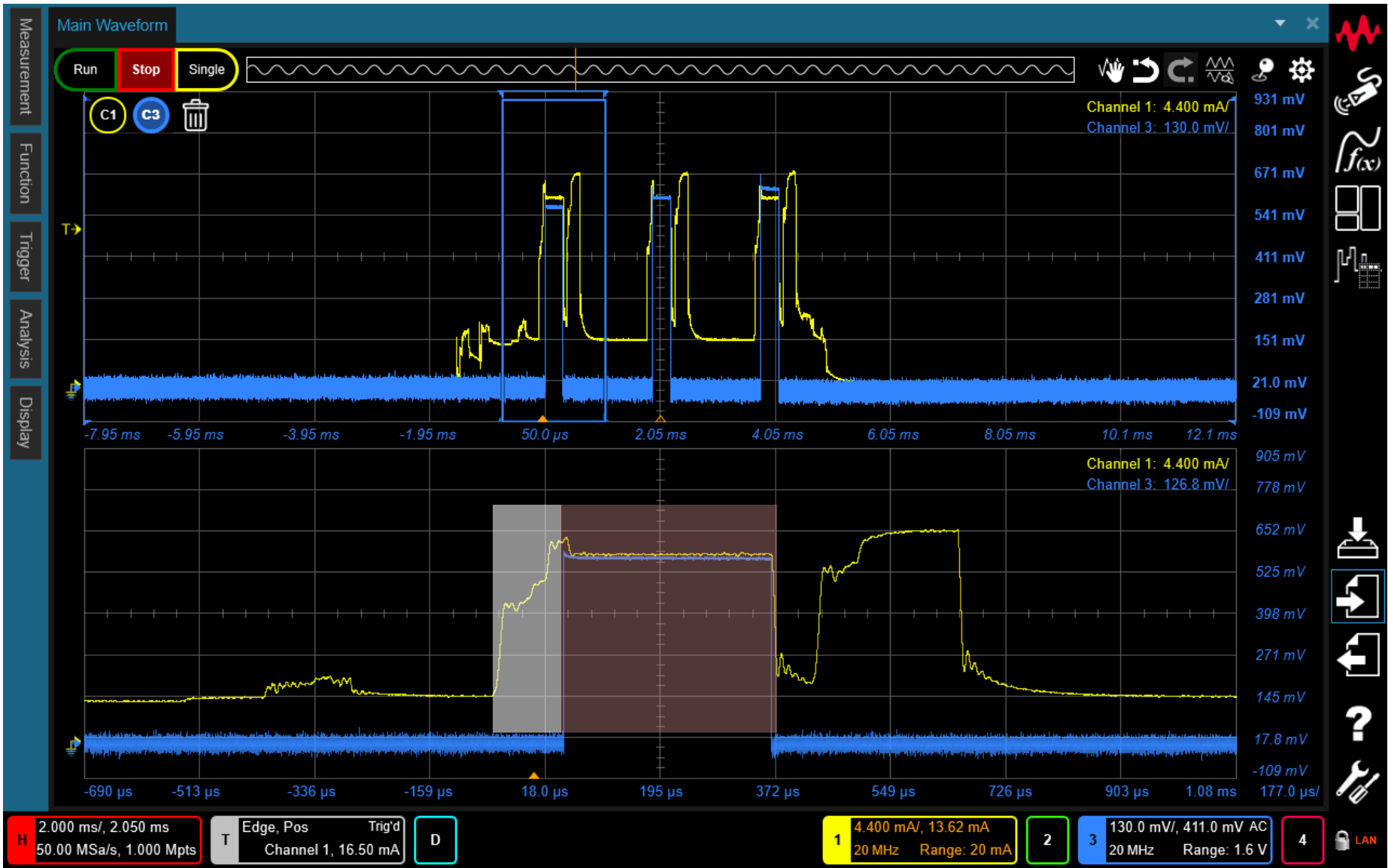




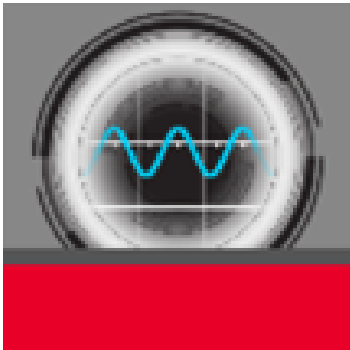






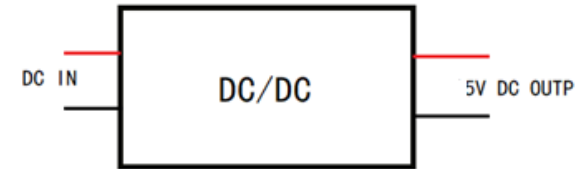


Automatic measurement



Check quality of DC-DC converter

DC IN: 18-36V
DC OUT: 5V



Parameters Set		Measure Result									
Vs Set	Iload Set	Vin (V)	Curr In	Powe Inp	Vout	Curr Load (A)	Power Outp	Eff %	Temperature	Vrms	Vpk-pk
18	0.5										
18	1										
18	2										
18	3										
24	0.5										
24	1										
24	2										
24	3										
36	0.5										
36	1										
36	2										
36	3										

Loop






















$$3 (Vs) * 4 (Iload) * 10 (mesure) = 120 !!$$



BenchVue Software

Control. Automate. Simplify.

ALL APPS

 BenchVue Complete Control Collection License for Use: Active Software Support: Expired	 BenchVue Digital Multimeter License for Use: Active Software Support: Expired	 BenchVue Education Control Collection
 BenchVue Electronic Load License for Use: Active Software Support: Expired	 BenchVue Oscilloscope License for Use: Active Software Support: Expired	 BenchVue Power Meter License for Use: Active Software Support: Expired
 BenchVue Power Supply License for Use: Active Software Support: Expired	 BenchVue Spectrum Analyzer License for Use: Active Software Support: Expired	 BenchVue Test Flow
 SAS Control License for Use: Active Software Support: Active	 14585A Control and Analysis Software	 BenchLink Waveform Builder License for Use: Active Software Support: Expired
 BenchVue Current Analyzer License for Use: Active Software Support: Expired	 BenchVue FieldFox License for Use: Active Software Support: Expired	 BenchVue Function Generator License for Use: Active Software Support: Expired
 BenchVue Network Analyzer License for Use: Active Software Support: Expired	 BenchVue Power Analyzer	 BenchVue Signal Generator License for Use: Active Software Support: Expired
 BenchVue Universal Counter License for Use: Active Software Support: Expired	 BenchVue USB Modular Chassis	 BenchVue USB Modular Data Acquisition License for Use: Active Software Support: Expired

GPIB



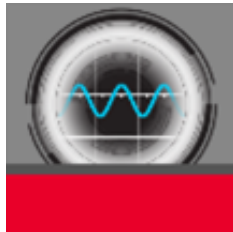
USB



LAN

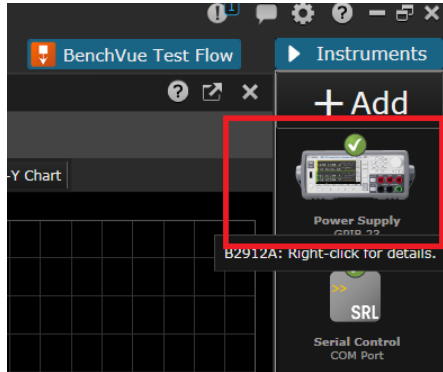


BenchVue Supported Instruments



Data acquisition units (4)	Power meters/sensors (33)	Function generators (19)	Power supplies/SMUs (168)	Spectrum/signal analyzers (30)	Oscilloscopes (218)
34970A 34972A DAQ970A 34980A	U2021XA ¹ U2022XA ¹ U2041XA ¹ U2042XA ¹	332x0A (3) 33500 Series¹ (10) 33600 Series¹ (4) 81150A 81160A	B2900 Series ¹ (4) B2961A/62A ¹ E3600 Series (14) E36100 Series ¹ (10) E36300 Series ¹ (4) N5700 Series ¹ (24) N6700A/B/C ¹ N6701A/C ¹ N6702A/C ¹ N6705A/B/C ¹ N6785A ¹ N6786A ¹ N6900 Series ¹ (12) N7900 Series ¹ (12) N8700 Series ¹ (21) N8900 Series ¹ (36) RP7900 Series (17)	X-Series N9040B UXA N9030A/B PXA N9020A/B MXA N9010A/B EXA N9000A/B CXA M9290A CXA HSA N934xC (3) ESA E440xB (4) PSA E444x (6) BSA N932xB/C (2)	1000-X Series ¹ (4) 2000-X Series ¹ (12) 3000-X Series ¹ (18) 3000T Series ¹ (20) 4000-X Series ¹ (16) 5000 (5) 6000A Series (16) 6000L Series (3) 6000-X Series ¹ (4) 7000 Series (28) 9000 Series (8) 90000 (6) 90000 Q-Series (5) 90000 X-Series (12) 90000 DSA Series (16) P924xA Series (3) S Series (14) V Series (18) Z Series (10)
Digital multimeters (10) 34401A, 34405A, 34410A, 34411A, 34420A ¹ , 34450A ¹ , 34460A ¹ , 34461A ¹ , 34465A ¹ , 34470A ¹	U2043XA ¹ U2044XA ¹ U2049XA LAN ¹ U2000 Series ¹ (9) U2053/63 Series ¹ L2050/60 Series ¹ (6) U848x Series ¹ (4) N191xA ¹ (4) N8262A ¹	Power analyzers (2) PA2201A PA2203A Signal generators (14) E4428C E4438C E8257D E8267D E8663D EXG X-Series N517xB (3) MXG X-Series N518xB (3) N518xA (3)		Electronic loads (4) N3300A ¹ N3301A ¹ 6060B 6063B	
Network analyzers (45) ENA E50xA/B/C (5) PNA N522xA/B (10) PNA-L N523A/B/C (11) PNA-X N524xA/B (12) PXI VNAs M937xA (6) PXIe multiport VNA M9485A				FieldFox analyzers (22) N9912A-N9918A (6) N9923A-N9928A (4) N9935A-N9938A (4) N9950A-N9952A (3) N9960A-N9962A (3)	Counters (3) 53210A ¹ 53220A ¹ 53230A ¹
USB modular devices (21) U2300 Series ¹ U2500 Series ¹ U2600 Series ¹ U2700 Series ¹	LCR Meters (2) E4980A E4980AL				

Easy connection and control



Test Flow- easy setting

The screenshot displays the Keysight BenchVue software interface. On the left, the 'Power Supply // B2912A // GPIB 23' configuration window is visible, showing 'Output 1' settings. The 'Mode' is set to 'Voltage', and the 'Current' is set to '0.000 A'. The 'Current Limit' is '100 µA' and the 'Current Range' is '3.03 A'. The 'Log voltage' and 'Log current' options are checked.

On the right, the 'BenchVue Test Flow' window is open, showing a sequence of blocks. A 'Set CH1 Priority Mode' block is highlighted, with a dropdown menu showing 'Current' selected. A yellow arrow points from the 'Current' dropdown to the 'Current' field in the 'Power Supply' configuration window.

Test Flow- advance function

More Blocks

- Basic Blocks
 - Delay
 - Wait Until
 - If Then Stop
 - If Then Else
 - Prompt
 - Ask User
 - Pass/Fail Test
 - Group
- Loops
 - Count
 - Duration
 - While
 - Until
 - Forever

Test Flow:

- Power Supply (GPIB0::23::INSTR)
- 1 - Set CH1 Priority Mode (Current)
- Repeat While
 - Get CH1 Voltage Measurement (≤ 4 V)
 - 1 - Get CH1 Voltage Measurement
 - 1 - Get CH1 Current Measurement
 - Delay 1 s

Variables

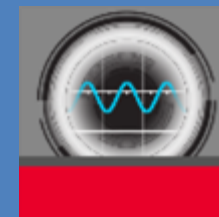
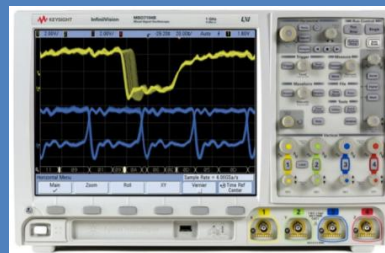
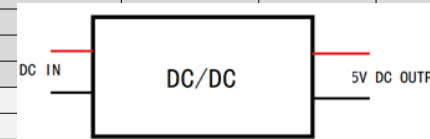
- Math
 - Basic
 - + - × ÷
 - Miscellaneous
 - x √x x² abs
 - Exponent and Logarithm
 - 10^x 2^x e^x x^y
 - log₁₀ log₂ ln
- Logic and Relational
- Constants
- Trigonometry
- Time
- Unit Conversion
- Statistics
- String
- Advanced
 - Command Expert
 - SCPI
 - *RST
 - Run a Script
 - Export Data

Test Flow:

- 1 - Set CH1 Priority Mode (Current)
- Repeat While
 - Get CH1 Voltage Measurement (≤ 4 V)
 - 1 - Get CH1 Voltage Measurement
 - 1 - Get CH1 Current Measurement
 - Delay 1 s
- 1 - SCPI
 - Address: GPIB0::23::INSTR B2912A
 - SCPI: RST Is Query? Validate
- Export Data
 - File Name: Flow Data 11
 - Export Target: Microsoft Excel
 - Export Path: C:\Users\baohualv\Documents...

Get DC-DC measurement

Parameters Set		Measure Result									
Vs Set	Iload Set	Vin (V)	Curr In	Powe Inp	Vout	Curr Load (A)	Power Outp	Eff %	Temperature	Vrms	Vpk-pk
18	0.5										
18	1										
18	2										
18	3										
24	0.5										
24	1										
24	2										
24	3										
36	0.5										
36	1										
36	2										
36	3										



Setup DC-DC measurement

1 - 设置 CH1 开启/关闭
● 开启 ● 关闭

2 - 设置 通道 1 开启/关闭
● 开启 ● 关闭

3 - 设置 CH1 开启/关闭
● 开启 ● 关闭

3 - 设置 CH1 操作模式
CC

1 - Vin
5 V, 12 V, 18 V, 编辑...

3 - Iout
From: 500 mA To: 2 A By: 500 mA

延迟 100 ms

1 - Iin
341.662 mA

4 - Vout
1.8459311 Vdc

3 - Pout
0 W

2 - 命令: 单次

2 - Vpk-pk
431.111 mV

设置
Pin = 1 - 获取 CH1 电压测量 995.834 mV × 1 - 获取 CH1 电流测量 356.41 mA
354.925 m

设置
Eff = Pin ÷ 3 - 获取 CH1 功率测量 0 W
+无限值

已运行 4 个循环/共 4 个循环

已运行 3 个循环/共 3 个循环

1 - 设置 CH1 开启/关闭
● 开启 ● 关闭

3 - 设置 CH1 开启/关闭
● 开启 ● 关闭

Set Power list

Set Load Sweep

输入变量名:
变量
符号 确定 取消
Eff
Pin
设置
输出

4 - Vout
1.9888393 Vdc

3 - Pout
0 W

2 - 命令: 单次

2 - Vpk-pk
-77.947 mV

设置
Pin = 1 - 获取 CH1 电压测量 995.834 mV × 1 - 获取 CH1 电流测量 356.41 mA
354.925 m

设置
Eff = Pin ÷ 3 - 获取 CH1 功率测量 0 W
+无限值

Auto calculate: $Eff = Pout / Pin$

Measurement Report

屏幕快照

BenchVue 测试流数据

MATLAB Microsoft Excel Microsoft Word **CSV**

将数据导出到 CSV 文件。

	A	B	C	D	E	F	G			
1	序列中的仪器	1 - N8762A - SIM::6::INSTR								
2	序列中的仪器	2 - DSO-X 2024A - SIM::9::INSTR								
3	序列中的仪器	3 - N3300A - SIM::5::INSTR								
4	序列中的仪器	4 - 34470A - SIM::8::INSTR								
5										
6	Start Time	31:51.2								
7	Stop Time	31:57.8								
8										
9	Time	Step	Voltage Set	Current Set	Current Measurement	Measurement Value	Power Measurement	Measurement "Pk-Pk(1)	(W)	(V)
10	31:52.9	1	5	0.5	0.01	0.419434869	0	-0.113321266	0.121	0
11	31:53.3	2	5	1	0.11	0.675352352	0	0.287300264	0.165056824	0
12	31:53.7	3	5	1.5	0.151421356	1.123224126	0	-0.057743102	0.197897885	0
13	31:54.1	4	5	2	0.183205081	0.181700137	0	0.307053977	0.224793562	0
14	31:54.6	5	12	0.5	0.21	1.432130438	0	-0.07105219	0.247807624	0
15	31:55.0	6	12	1	0.233606798	1.880002212	0	0.430332416	0.268009864	0
16	31:55.5	7	12	1.5	0.254948974	0.519828276	0	0.323179252	0.286042633	0
17	31:55.9	8	12	2	0.274575131	0.96770005	0	0.047691649	0.302329007	0
18	31:56.5	9	18	0.5	0.292842712	0.962180512	0	-0.345105141	0.317166067	0
19	31:56.9	10	18	1	0.31	0.631260759	0	-0.174719194	0.330772505	0
20	31:57.3	11	18	1.5	0.326227766	0.276574006	0	-0.18580043	0.343315243	0
21	31:57.8	12	18	2	0.341662479	1.335050016	0	-0.322190314	0.354925405	0
22										

Thanks for your attention!!

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- 為通用市場和前沿 IoT 市場優化了配置
- SCPI 編程代碼與所有 Agilent/Keysight 信號源產品兼容



作為一款經濟型、高性價比的射頻矢量信號源，[N5166B CXG](#) 也是 X- 系列信號源產品線的入門級產品，主要覆蓋通用測試、模塊功能驗證、整機測試以及小規模製造等長尾市場。

預約以下機型之介紹，即可獲得摺疊旅行袋
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元件電流波型分析儀



ENA 網路分析儀



新推出！CXG 信號產生器



資料擷取系統/電錶類



3 通道/雙通道電源供應器