

# Application Note

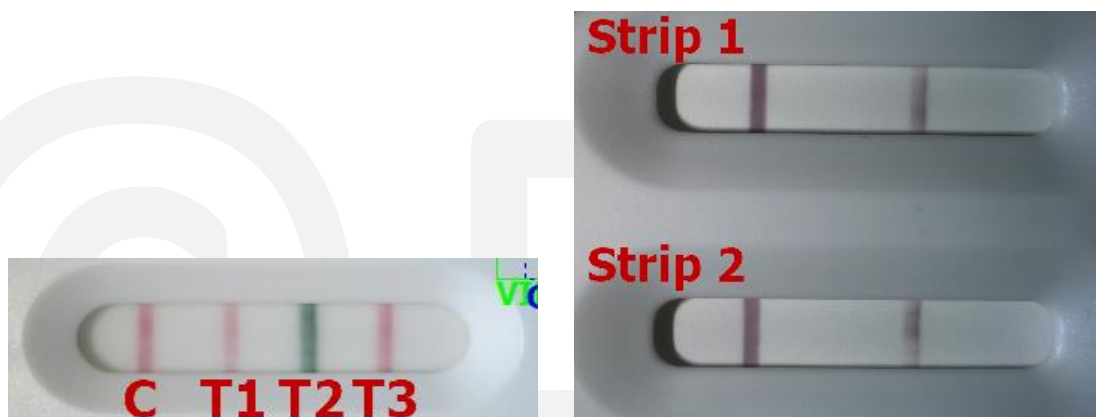
## [NOTE] Guidance to Set Up Multi-T and Multichannel Test Profiles

[AN] RTV-2023-0313-001



### Application:

There're **multi-t-band** and **multi-strip** two different multiplex lateral flow tests(as shown below). The main difference between them is the way test results are displayed.



**Multi-t-band:** each t-band has a corresponding reagent, and when the corresponding sample component is detected, the t-band will show color to display the result.

In contrast, the **multi-strip** test is based on the design of reagent paper strips, with each test panel having an independent reagent strip, called "Multi-Strip." When the corresponding sample component is detected, the reagent strip will show color changes to display the result.

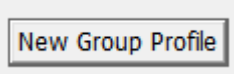
This document will explain how to use Rapid Test View or Rapid Test View Ethernet(RTV&ERTV for short) Software for Multiplex Rapid Test.

### Product:

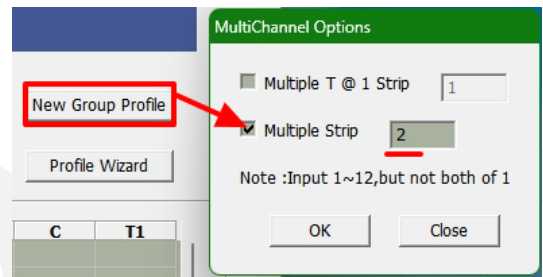
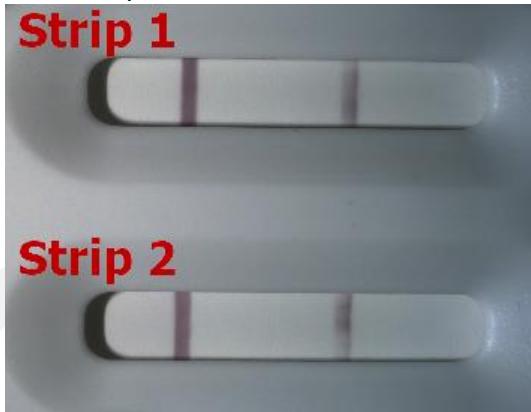
RapidScan Lateral Flow Readers Pro with Rapid Test View (RTV )or Rapid Test View\_Ethernet Software (ERTV).

**Introduction:**

When analyzing a multiplex rapid test, you need to use the function of RTV (or ERTV) to

set the profile for each channel separately, and then use  function to put all these profiles together. The setting method of the New Group Profile is as follows:

1. Multi-strip



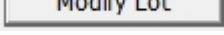
→ Check the setting of Multiple-Strip and set the number of strips.

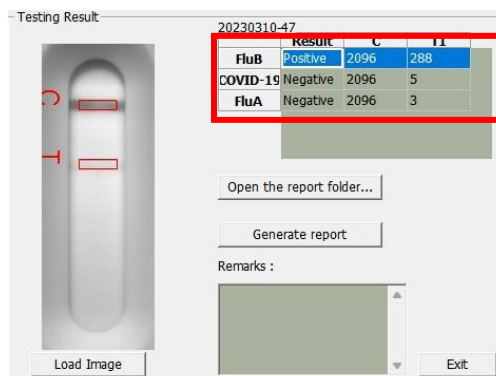
2. Multi-t-band



→ Check the setting of Multiple-T and set the number of T.

3. A complete set of Multiplex Rapid Test Profiles needs to include a set of group profiles and several profiles for each channel (the number of profiles depends on the number of channels). --> So if you want to transfer the complete Multiplex Rapid Test Profile to another platform, you need to transfer the above Profiles together. (Example: RTV-->ST5 UI)

4. Through the Qualitative Statement setting of , the results of each channel Profile can be set separately, so that different results can be displayed after analysis, as shown in the figure below:

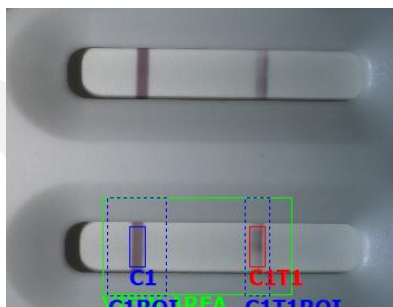
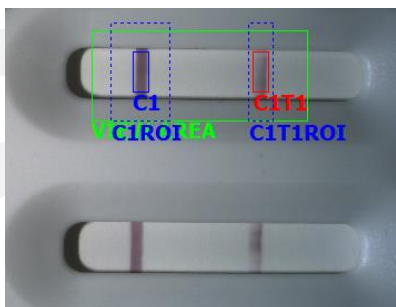


**Step**

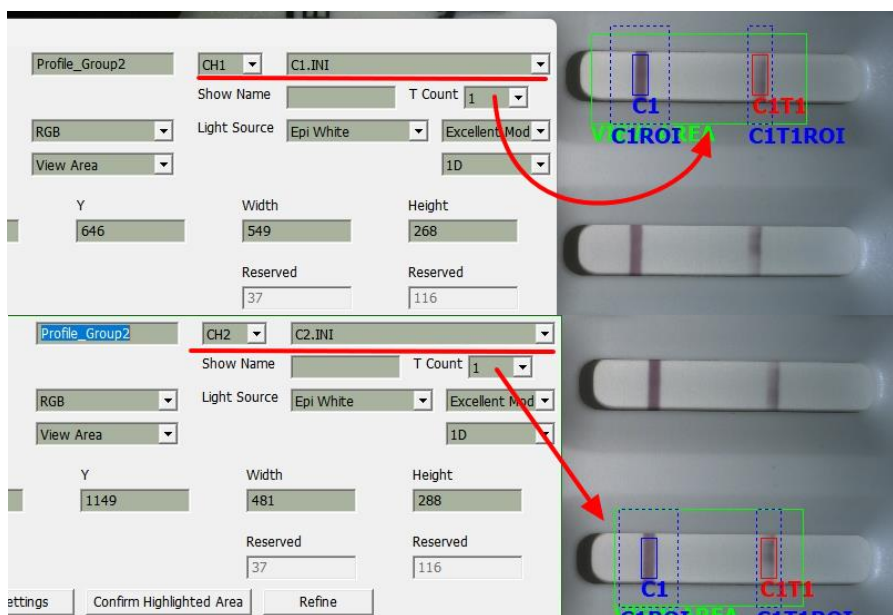
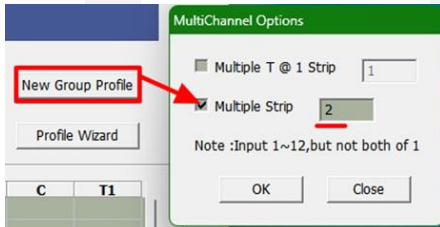
**1. Multiple-strip Cassette:**



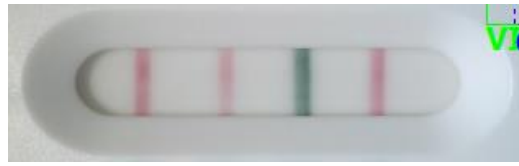
A. Set the profiles of each strip respectively:



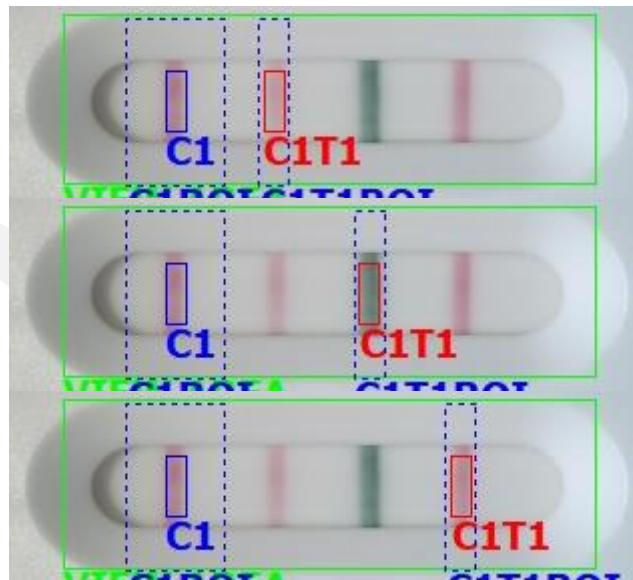
B. Set a group profile to combine profiles of each strip:



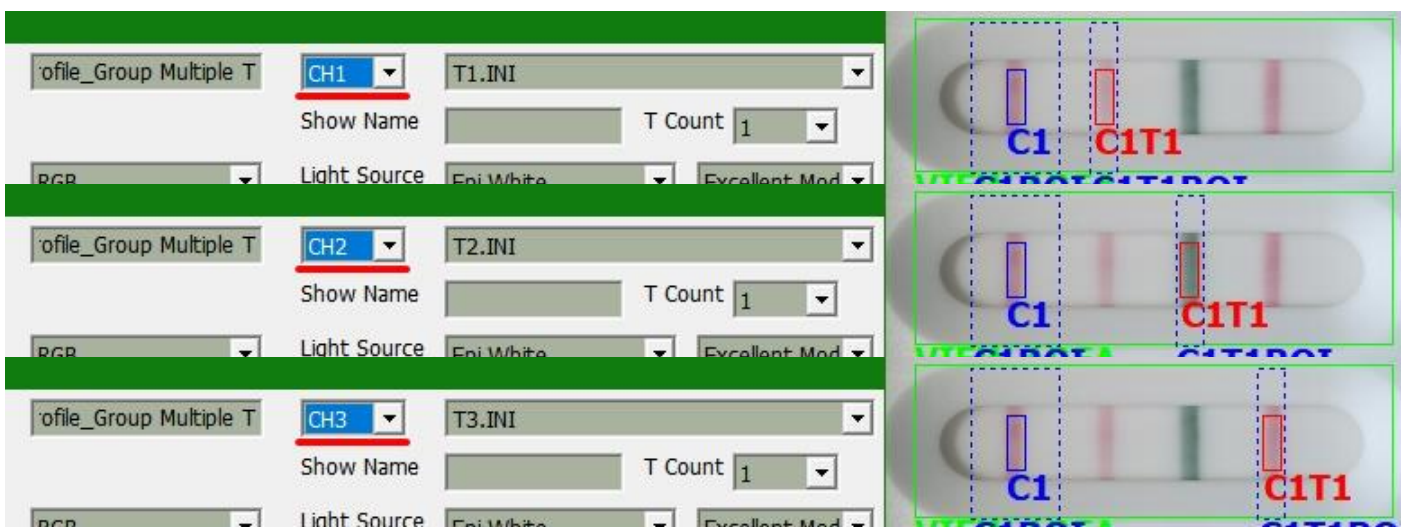
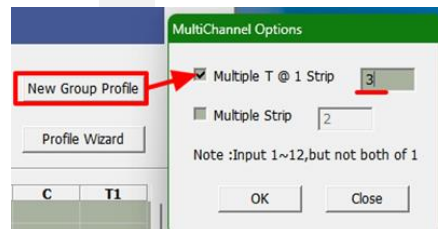
## 2. Multiple-t-band:



A. Set the profiles of each t-band:



B. Set a group profile to combine profiles of each t-band :



**Example:**

**1. Experimental Content:**

control variable	
Cassette	Three-in-one Cassette (Multiple T): FluB(T1)/COVID-19(T2)/FluA(T3)
Limit samples	Limit samples judged as negative
manipulative variable	
Test samples	10 different samples (random sampling) of performed biological reactions
Strain variable	
Analyze 10 different samples and confirm the results.	

**2. Set the Profiles of Each T-band:**

Please refer to " Step --> **2. Multiple T Cassette** --> A. Set the profiles of each T Band respectively ", then set the Profile of FluB/COVID-19/FluA respectively.

**3. Confirm the Cut Off Value of T:**

A. Through experimental analysis, the Cut Off value of FluB(T1)/COVID-19(T2)/FluA(T3) can be summarized, as shown in the following table (hypothesis):

	FluA(T3)	FluB(T1)	COVID-19(T2)
The Cut Off value of T	72	94	125

B. Set the **Modify Lot** of FluB/COVID-19/FluA Profile respectively, and adjust the setting of Qualitative Statement according to the above table. As shown below(Take FluA as an example):

Qualitative Statement

Statement

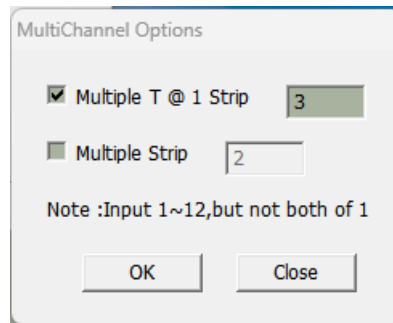
Formula

4. **Set a Group Profile to Combine Profile:**

→ For the step-by-step process, please refer to the operation video, as shown in the following link: [https://drive.google.com/file/d/1UVhcAlcAmhxb69bUPIEFo595-Mt676Ud/view?usp=share\\_link](https://drive.google.com/file/d/1UVhcAlcAmhxb69bUPIEFo595-Mt676Ud/view?usp=share_link)

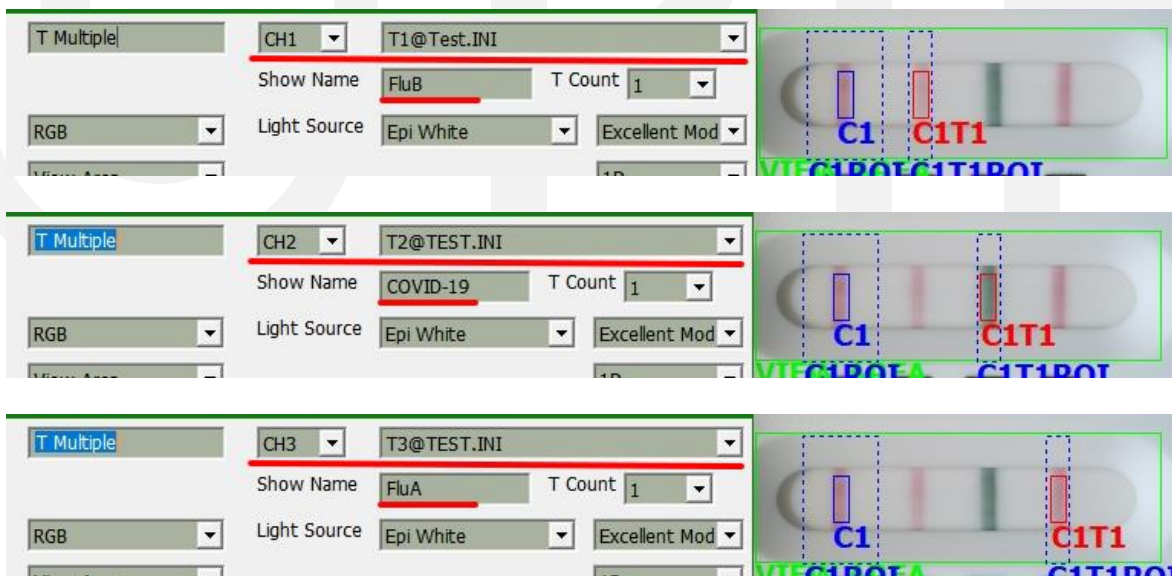
**New Group Profile**

A. Use the **New Group Profile** function to create a group profile (Multiple-t-band), set as shown below:



**Profile Wizard**

B. Use the **Profile Wizard** function to merge the FluB/COVID-19/FluA profile (please refer to AAA) into a group profile, as shown in the figure below:



→ You can indicate the specimen name in the "Show Name" form.

C. Complete the setup and run the sample test.

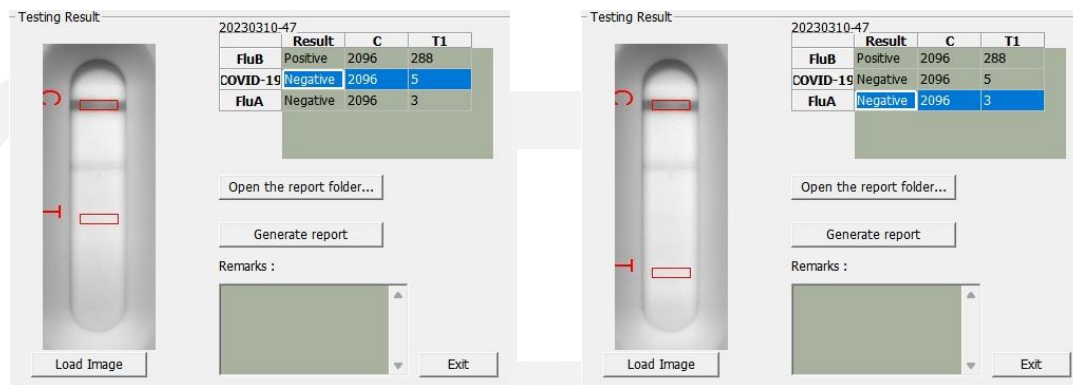
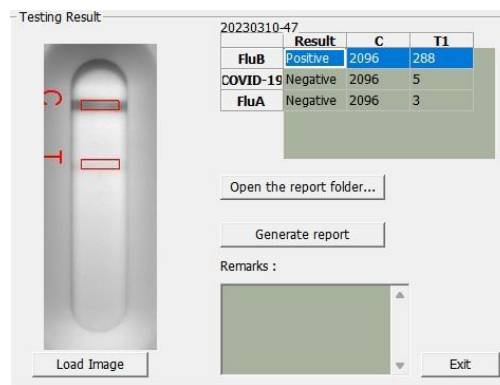


**5. 10 Random Sample Tests:**

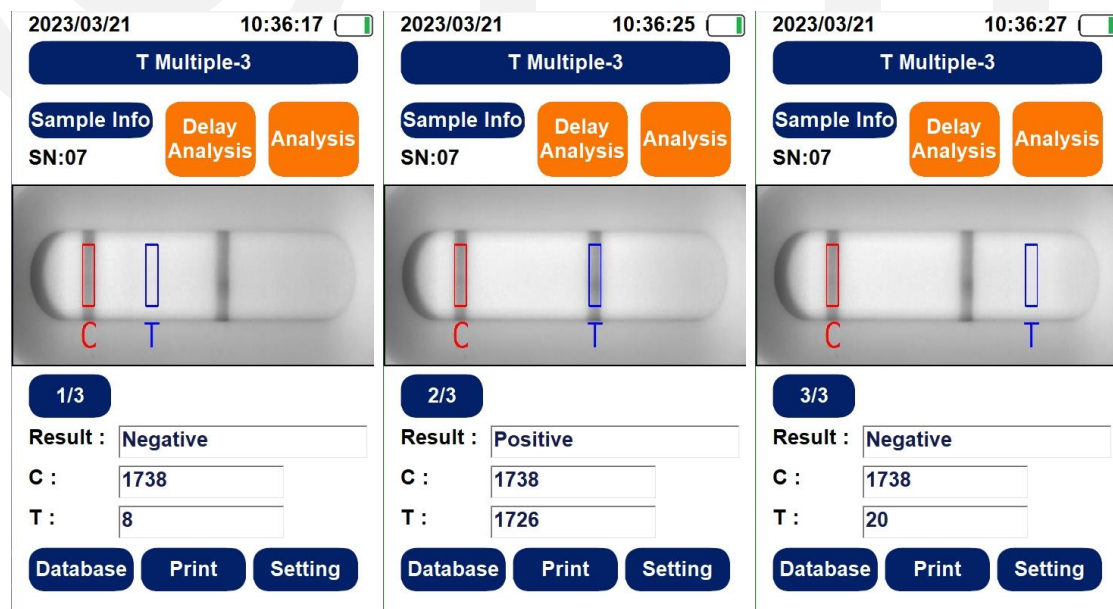
A. After the analysis of all samples is completed, the data is output, and the data can be obtained as the following table::

No	Date	Time	Profile	Result	C	T1
57	2023/3/10	17:00:19	FluA	Negative	2365	37
57	2023/3/10	17:00:19	COVID-19	Negative	2365	67
57	2023/3/10	17:00:19	FluB	Negative	2365	2
56	2023/3/10	16:59:54	FluA	Negative	2094	52
56	2023/3/10	16:59:54	COVID-19	Positive	2094	153
56	2023/3/10	16:59:54	FluB	Negative	2094	2
55	2023/3/10	16:59:24	FluA	Negative	1738	4
55	2023/3/10	16:59:24	COVID-19	Positive	1738	1726
55	2023/3/10	16:59:24	FluB	Negative	1738	2
54	2023/3/10	16:58:59	FluA	Negative	2326	3
54	2023/3/10	16:58:59	COVID-19	Negative	2326	51
54	2023/3/10	16:58:59	FluB	Negative	2326	4
53	2023/3/10	16:58:32	FluA	Negative	1779	4
53	2023/3/10	16:58:32	COVID-19	Negative	1779	53
53	2023/3/10	16:58:32	FluB	Negative	1779	73
52	2023/3/10	16:58:04	FluA	Positive	1958	159
52	2023/3/10	16:58:04	COVID-19	Negative	1958	50
52	2023/3/10	16:58:04	FluB	Negative	1958	2
51	2023/3/10	16:57:39	FluA	Negative	2243	5
51	2023/3/10	16:57:39	COVID-19	Negative	2243	47
51	2023/3/10	16:57:39	FluB	Negative	2243	2
50	2023/3/10	16:49:36	FluA	Negative	2392	5
50	2023/3/10	16:49:36	COVID-19	Negative	2392	4
50	2023/3/10	16:49:36	FluB	Negative	2392	3
49	2023/3/10	16:49:12	FluA	Negative	2512	4
49	2023/3/10	16:49:12	COVID-19	Negative	2512	56
49	2023/3/10	16:49:12	FluB	Positive	2512	441
48	2023/3/10	16:48:39	FluA	Negative	2096	3
48	2023/3/10	16:48:39	COVID-19	Negative	2096	5
48	2023/3/10	16:48:39	FluB	Positive	2096	288

B. If you are using RTV(or ERTV) to analyze multiple channels, the test results will be as follow:



C. If you are using ST5 to analyze multiple channels, the test results will be as follow:





### Extended Application:

Multi-channel settings can also be applied to 1C 1T Strip.

-->By adjusting some specific parameters of the Profile Wizard and setting it to multi-channel analysis, observe the difference in the analysis results. For example:

Color Mode:

The image shows three instances of the 'Testing Result' software interface. Each instance displays a grayscale image of a 1C 1T strip with red measurement boxes. To the right of the image is a data table with the following columns: 'Result', 'C', and 'T1'. The data rows are as follows:

	Result	C	T1
RRR	0.403	459	185
GGG	0.602	2196	1323
BBB	0.545	1901	1037

Below the table are buttons for 'Open the report folder...' and 'Generate report'. A 'Remarks :' field is also present at the bottom of each window.