

SRRC/FCC/CE Certification Instruction Manual



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SRRC/FCC/CE Certification Instruction Manual, Version V1.0

Date	Version	Contents Updated
2023/11/16	1.0	● Initial Release

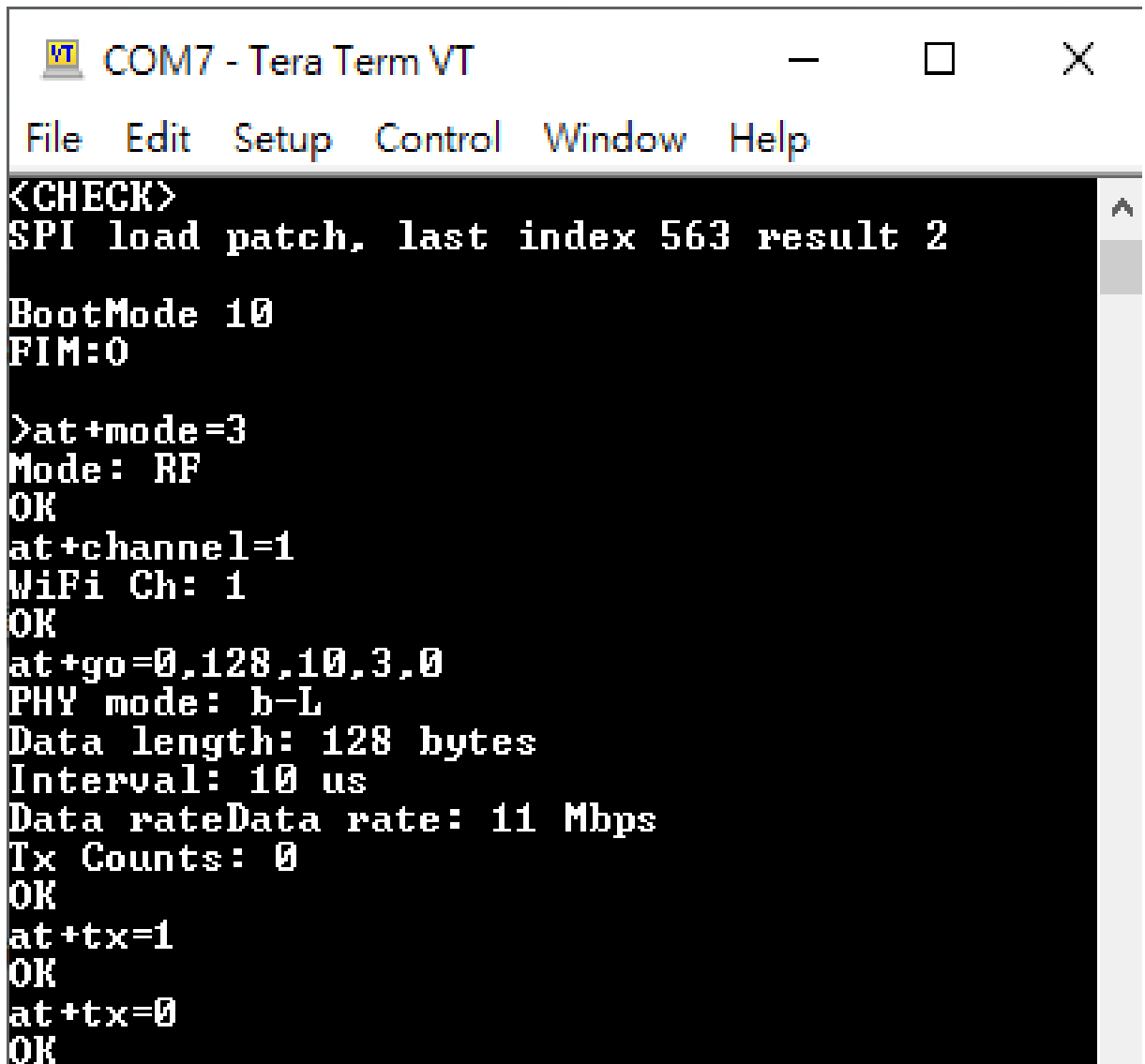
TABLE OF CONTENTS

1. Operational interface	1
2. Environmental Settings	2
2.1. Tera Term Settings	2
3. Command Operation	3
3.1. Specific WIFI Channel Operation Instructions	3
3.1.1. 802.11b Settings	3
3.1.2. 802.11g Settings	5
3.1.3. 802.11n Settings	7
3.1.4. 802.11ax Settings	9
3.2. Specific Bluetooth Channel Operation Instructions	11
4. Hardware Setup	12
4.1. UART Serial Connection Method	12

1. OPERATIONAL INTERFACE

The Opulinks 2500 series SoC (2500S/ 2500P) supports RF testing for transmission and reception functions with different parameters settings. The settings are through AT commands.

For example:



```
COM7 - Tera Term VT
File Edit Setup Control Window Help
<CHECK>
SPI load patch, last index 563 result 2

BootMode 10
FIM:0

>at+mode=3
Mode: RF
OK
at+channel=1
WiFi Ch: 1
OK
at+go=0,128,10,3,0
PHY mode: b-L
Data length: 128 bytes
Interval: 10 us
Data rateData rate: 11 Mbps
Tx Counts: 0
OK
at+tx=1
OK
at+tx=0
OK
```

2. ENVIRONMENTAL SETTINGS

The user can choose desired terminal applications with the same settings as follow. We use TeraTerm as example.

2.1. Tera Term Settings

Tera Term: Serial port setup

Port:COM7

Baud rate:115200

Data:8 bit

Parity:none

Stop:1 bit

Flow control:none

OK

Cancel

Help

Transmit delay

1

msec/char

10

msec/line

Tera Term: Terminal setup

Terminal size

45

 X

34

☒ Term size = win size

☐ Auto window resize

New-line

Receive: AUTO

Transmit: CR+LF

Terminal ID: VT100

☐ Local echo

Answerback:

☐ Auto switch [VT<->TEK]

Coding (receive)

UTF-8

Coding (transmit)

UTF-8

locale: american

CodePage: 65001

OK

Cancel

Help

3. COMMAND OPERATION

3.1. Specific WIFI Channel Operation Instructions

3.1.1. 802.11b Settings

Step1

Command	Instruction	Response
at+mode=3	Enter WiFi Testing Mode.	Mode: RF OK

Step2

Command	Instruction	Response
at+channel=[ch]	[ch] : Set the channel frequency value between 1 and 14.	WiFi Ch: [ch] OK

Step3

Command	Instruction	Response
at+go=0,128,10,[rate],0	[rate]: rate=0 @ 1M rate=1 @ 2M rate=2 @ 5.5M rate=3 @ 11M	OK

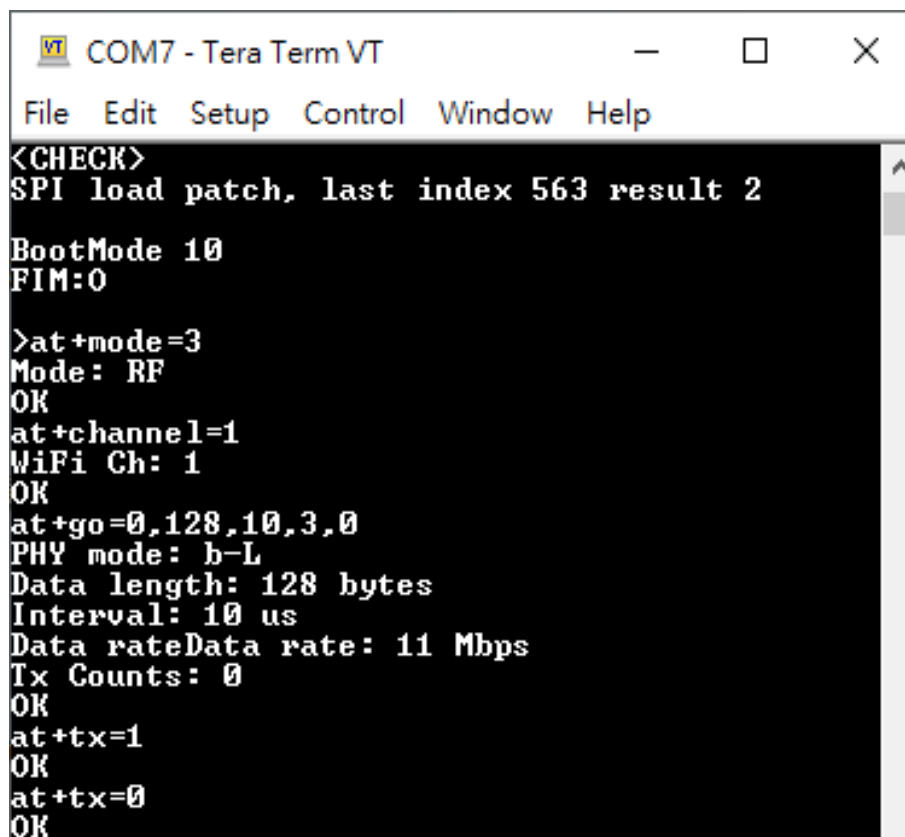
Step4

Command	Instruction	Response
at+tx=1	Begin transmitting signals.	OK

Step5

Command	Instruction	Response
at+tx=0	End transmission of signals.	OK

Example:



```
COM7 - Tera Term VT
File Edit Setup Control Window Help
<CHECK>
SPI load patch, last index 563 result 2
BootMode 10
FIM:0

>at+mode=3
Mode: RF
OK
at+channel=1
WiFi Ch: 1
OK
at+go=0,128,10,3,0
PHY mode: b-L
Data length: 128 bytes
Interval: 10 us
Data rateData rate: 11 Mbps
Tx Counts: 0
OK
at+tx=1
OK
at+tx=0
OK
```

3.1.2. 802.11g Settings

Step 1

Command	Instruction	Response
at+mode=3	Enter WiFi Testing Mode.	Mode: RF OK

Step 2

Command	Instruction	Response
at+channel=[ch]	[ch] : Set the channel frequency value between 1 and 14.	WiFi Ch: [ch] OK

Step 3

Command	Instruction	Response
at+go=2,128,10,[rate],0	[rate]: rate=0 @ 6M rate=1 @ 9M rate=2 @ 12M rate=3 @ 18M rate=4 @ 24M rate=5 @ 36M rate=6 @ 48M rate=7 @ 54M	OK

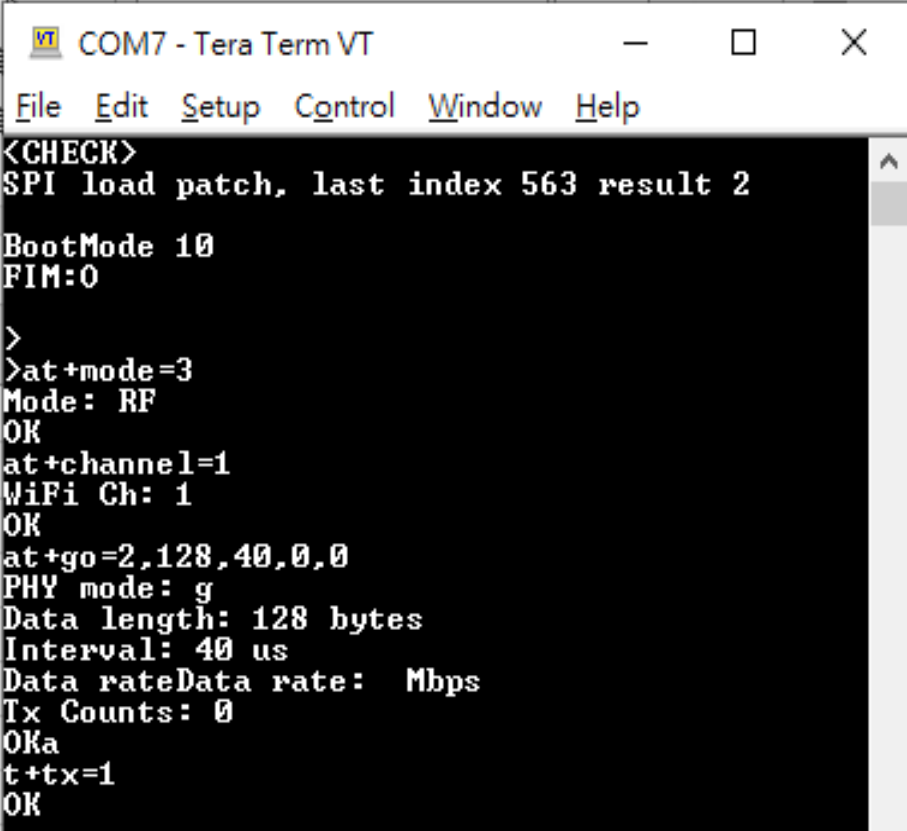
Step 4

Command	Instruction	Response
at+tx=1	Begin transmitting signals.	OK

Step 5

Command	Instruction	Response
at+tx=0	End transmission of signals.	OK

Example:



```
COM7 - Tera Term VT
File Edit Setup Control Window Help
<CHECK>
SPI load patch, last index 563 result 2

BootMode 10
FIM:0

>
>at+mode=3
Mode: RF
OK
at+channel=1
WiFi Ch: 1
OK
at+go=2,128,40,0,0
PHY mode: g
Data length: 128 bytes
Interval: 40 us
Data rateData rate: Mbps
Tx Counts: 0
OKa
t+tx=1
OK
```

3.1.3. 802.11n Settings

Step 1

Command	Instruction	Response
at+mode=3	Enter WiFi Testing Mode.	Mode: RF OK

Step 2

Command	Instruction	Response
at+channel=[ch]	[ch] : Set the channel frequency value between 1 and 14.	WiFi Ch: [ch] OK

Step 3

Command	Instruction	Response
at+go=3,128,10,[rate],0	[rate]: rate=0 @ MCS0 rate=1 @ MCS1 rate=2 @ MCS2 rate=3 @ MCS3 rate=4 @ MCS4 rate=5 @ MCS5 rate=6 @ MCS6 rate=7 @ MCS7	OK

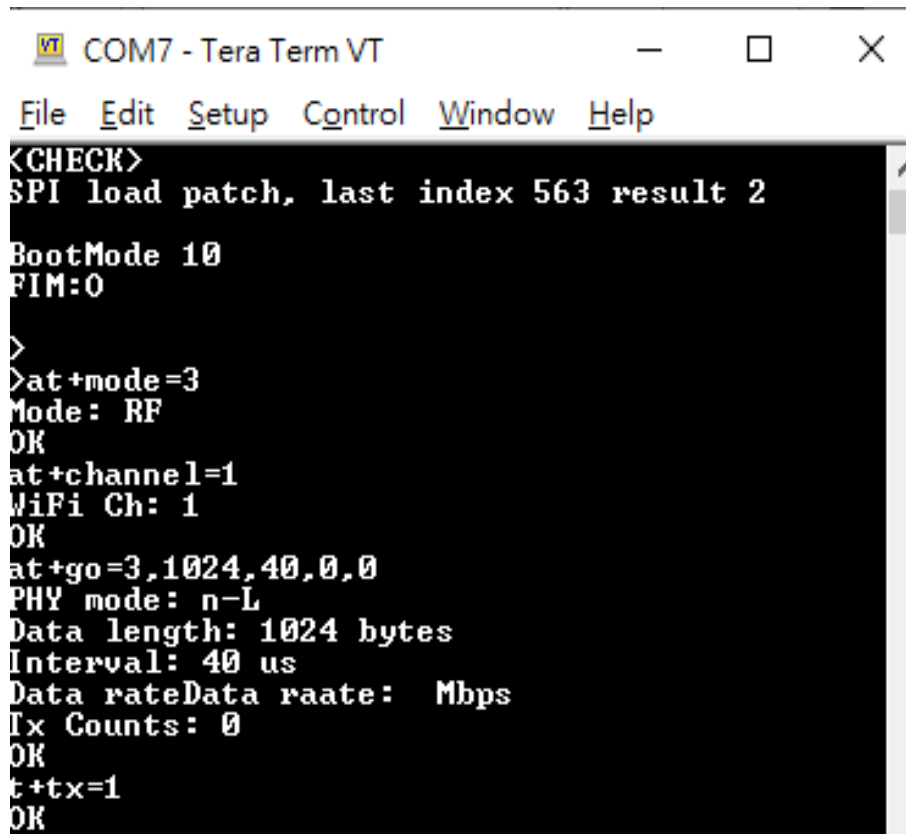
Step 4

Command	Instruction	Response
at+tx=1	Begin transmitting signals.	OK

Step 5

Command	Instruction	Response
at+tx=0	End transmission of signals.	OK

Example:



```
COM7 - Tera Term VT
File Edit Setup Control Window Help
<CHECK>
SPI load patch, last index 563 result 2

BootMode 10
FIM:0

>
>at+mode=3
Mode: RF
OK
at+channel=1
WiFi Ch: 1
OK
at+go=3,1024,40,0,0
PHY mode: n-L
Data length: 1024 bytes
Interval: 40 us
Data rateData raate: Mbps
Tx Counts: 0
OK
t+tx=1
OK
```

3.1.4. 802.11ax Settings

Step 1

Command	Instruction	Response
at+mode=3	Enter WiFi Testing Mode.	Mode: RF OK

Step 2

Command	Instruction	Response
at+channel=[ch]	[ch] : Set the channel frequency value between 1 and 14.	WiFi Ch: [ch] OK

Step 3

Command	Instruction	Response
at+go=6,128,10,[rate],0	[rate]: rate=0 @ MCS0 rate=1 @ MCS1 rate=2 @ MCS2 rate=3 @ MCS3 rate=4 @ MCS4 rate=5 @ MCS5 rate=6 @ MCS6 rate=7 @ MCS7	OK

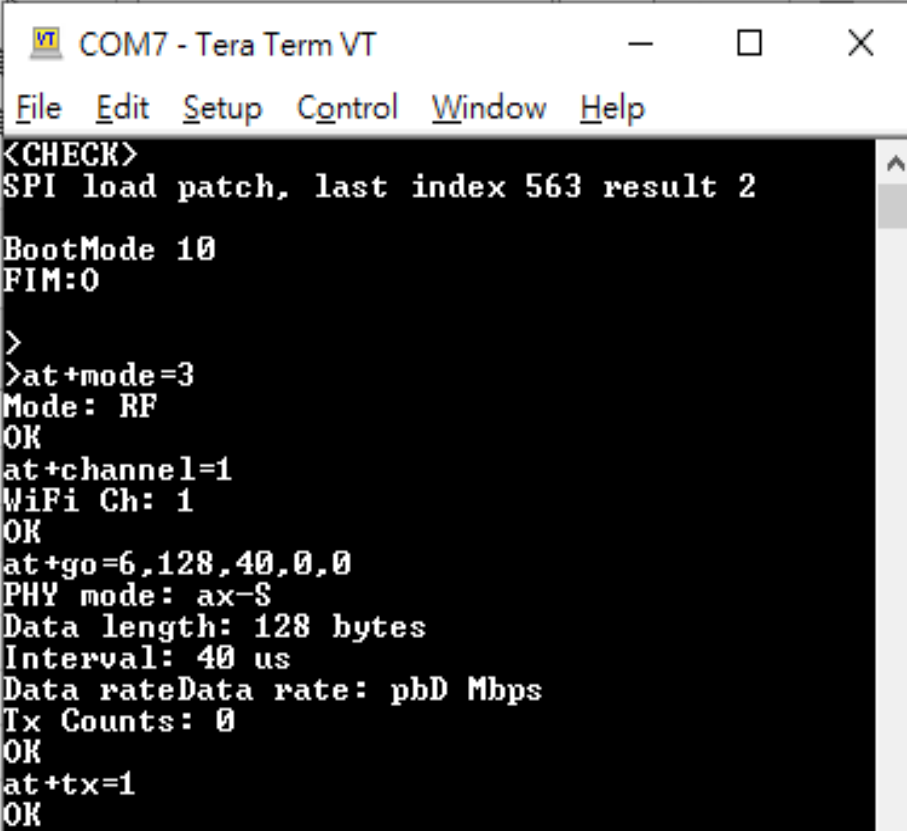
Step 4

Command	Instruction	Response
at+tx=1	Begin transmitting signals.	OK

Step 5

Command	Instruction	Response
at+tx=0	End transmission of signals.	OK

Example:



```
COM7 - Tera Term VT
File Edit Setup Control Window Help
<CHECK>
SPI load patch, last index 563 result 2

BootMode 10
FIM:0

>
>at+mode=3
Mode: RF
OK
at+channel=1
WiFi Ch: 1
OK
at+go=6,128,40,0,0
PHY mode: ax-S
Data length: 128 bytes
Interval: 40 us
Data rateData rate: phD Mbps
Tx Counts: 0
OK
at+tx=1
OK
```

3.2. Specific Bluetooth Channel Operation Instructions

Step 1

Command	Instruction	Response
at+dtm=tx,[ch],37,1,1	Initiate signal transmission [ch]: Set the channel frequency MHz = 2402+[ch] *2	OK

Step 2

Command	Instruction	Response
at+dtm=end	End signal.	OK

Example

```
COM7 - Tera Term VT
File Edit Setup Control Window Help
<CHECK>
SPI load patch, last index 563 result 2

BootMode 10
FIM:0

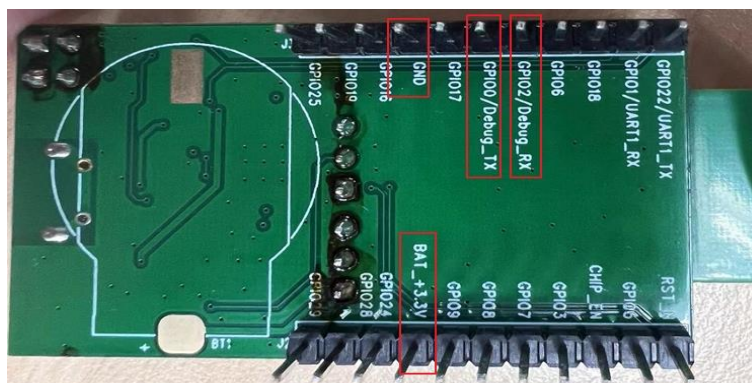
>at+dtm=tx,0,37,1,1
Start DIM Tx
freq: 0, len: 37, type: 1, phy: 1
OK

>at+dtm=end
RX CNT : 0000
CRC OK : 0000
CRC ERR: 0000
RSSI: 0
OK
```

4. HARDWARE SETUP

4.1. UART Serial Connection Method

- GPIO2/Debug_RX: UART_APS_RX
- GPIO0/Debug_TX: URAT_APS_TX
- VBAT_+3.3V: Power 3.3V
- GND: Ground



CONTACT

sales@Opulinks.com