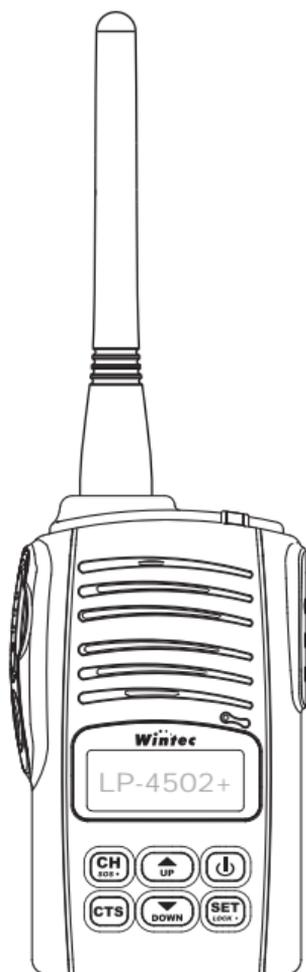


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## LP-4502+

### User's Manual

## Introduction

Thank you for purchasing Wintec LP-4502+. Wintec LP-4502+ lets you talk to as many people you wish, as often as you like, with no need for a license, subscription or tax payment. It is very easy to use so even children can handle it.

Please read through this manual carefully for many features of this model.

## Safety Information

1. Use only the supplied antenna. Unauthorized antennas, modifications or attachments could damage the radio and changes or modifications not expressly approved by the party responsible for the compliance could void the authority to operate the radio.
2. Avoid storing in high temperature or humid place for long time.
3. If strange smell or smoke comes off the radio, dispatch it to service center immediately.
4. Turn to lowest volume if external mic / speaker is used, then adjust appropriately.
5. Never use other power sources for charging other than the standard charger set designed for this radio model.
6. Take off battery pack if out of use for long time.

This device has been tested and meets applicable limits for Radio Frequency (RF) exposure. Specific Absorption Rate (SAR) refers to the rate at which the body absorbs RF energy. SAR limits are 1.6 Watts per kilogram (over a volume containing a mass of 1 gram of tissue) in countries that follow the United States FCC limit and 2.0 W/kg (averaged over 10 grams of tissue) in countries that follow the Council of the European Union limit. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. To reduce exposure to RF energy, use a hands-free accessory or other similar option to keep this device away from your head and body. Carry this device at least 5 mm away from your body to ensure exposure levels remain at or below the as-tested levels. Choose the belt clips, holsters, or other similar body-worn accessories which do not contain metallic components to support operation in this manner. Cases with metal parts may change the RF performance of the device, including its compliance with RF exposure guidelines, in a manner that has not been tested or certified, and use such accessories should be avoided.

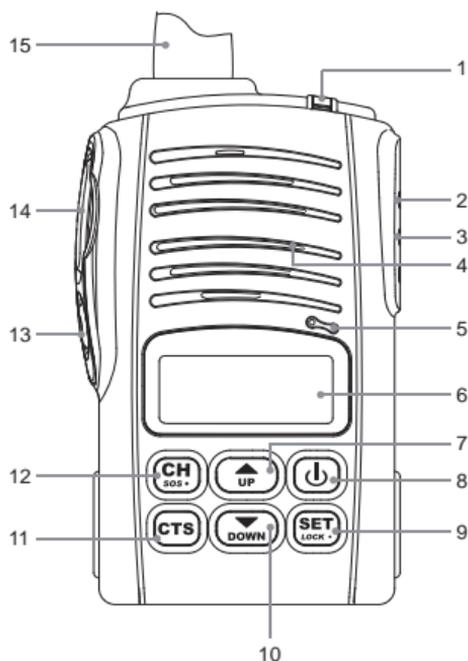
## Features

- Use of TCXO resonator to enhance freq. stability ( $\pm 1.5\text{ppm}$ ).
- Digitally designed to ensure stable quality.
- Extra-small size with sturdy case, comply with US military standards 810E.
- 7 tone calls & amateur's MORSE code.
- 9 levels of VOX (voice-activate feature) with quick VOX capability ON / OFF.
- 3 steps Auto-power save modes.
- 3 steps Auto-power-off.
- 5 steps Transmit Time-out-timer.
- Channel scan feature.
- Dual Watch Scan feature.
- 1 SOS channel and 1 Memory channel setting.
- Tx / Rx Different Channel Mode.
- BTL (Busy Tone Lockout) feature.
- Scrambler feature supported.
- 51 / 83 group-codes (CTCSS / DCS) supported.
- Multi-Icon Backlit LCD display.
- PMR (Private Mobile Radio) Type support 16 channels.

# Contents

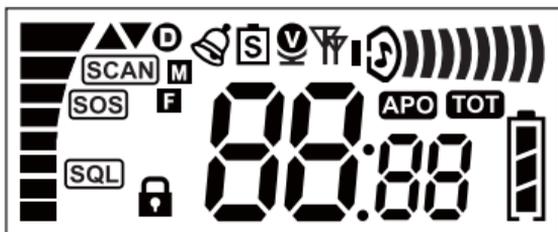
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# Radio Controls / Functions



- |                             |                              |
|-----------------------------|------------------------------|
| 1. LED indicator            | 10. Down key                 |
| 2. External speaker jack    | 11. CTCSS / DCS key          |
| 3. External microphone jack | 12. Channel / SOS key        |
| 4. Speaker area             | 13. Monitor / Back light key |
| 5. Microphone               | 14. PTT key(Push-To-Talk)    |
| 6. LCD screen               | 15. Antenna                  |
| 7. Up key                   |                              |
| 8. Power key                |                              |
| 9. Function / LOCK key      |                              |

# Icons Guide



 Tone Call

 Squelch Level

 Auto-Power Save

 Keypad Lock

 VOX  
(Voice-activate system)

 SOS (Emergency)  
Channel

 Keypad Tone

 Scrambler

 Volume

 Scanning

 Auto-Power-Off

 Signal Strength  
Indicator

 Transmit  
Time-Out-Timer

 Dual Watch Scanning

 Battery Power

 Memory Channel

 CTCSS Number

 Tx / Rx Different  
Channel Mode

 DCS Number

 Function Settings

 Channel Number

# Operation Guide

## Power ON / OFF

Hold  about 1 sec to power radio. While power ON, hold  about 1.5 sec turn the power off.

## Transmitting / Receiving

While holding [PTT], speak to the microphone area. LED glows red during transmission. To receive, release [PTT]. LED glows green when receiving.

\*Keep about 5~10 cm from microphone area when speaking slowly and clearly.

## Volume Adjustment

Momentarily press repeatedly on [▲] to adjust volume louder. Momentarily press repeatedly on [▼] to adjust volume lower. Press and hold [▲] or [▼] to swiftly adjust volume. Do adjustment as you need.

\*Caution: For external mic/ear user, adjust volume starting from the lowest level.

## Normal Channel Selection

Momentarily press [CH]. While channel number icon blinks, temporarily press repeatedly on [▲] or [▼] to select channel. To preset channel, temporarily press [CH], [CTS], [SET] or [PTT].

## Scan Channels

Momentarily press [CH]. While channel number icon blinks, hold on [▲] or [▼] about 2 sec. to start scanning of channel. Jumping of channel numbers increasingly or decreasingly and the LCD show  indicates scan in progress.

- Press [▲] or [▼] to change the channel scanning direction.
- When scanning and none of the signal is received, pressing [SET] or [CH] will stop scanning and return to the original channel.

- When the signal is received, pressing [SET] or [CH] will stop scanning and stay in the current channel.
- When scanning and none of the signal is received, pressing [PTT] will talk to the original channel, release [PTT] will continue to scan after 5 sec.
- When the signal is received, pressing [PTT] will talk to the current channel, and stop scanning and stay in the current channel.

\*VOX is invalid, when scan in progress.

\*This operation is not allowed at the Memory channel / SOS channel.

### CTCSS / DCS Setting

1. Press [CTS] once to enter the CTCSS / DCS Sub-Tone code setting mode.

2. In the CTCSS / DCS Sub-Tone code setting mode, the LCD will show original Sub-Tone code (-- -- / Ctxx / dC xx), then press [▲] or [▼] to select the new Sub-Tone code that you wanted. After finished selecting, press [CTS], [PTT], [SET] or [CH] once to jump out of the Sub-Tone code setting mode and save your setting.



Sub-Tone code setting mode indication:

- OFF: If the current channel not setting CTCSS / DCS, the LCD will show "-- --".
- CTCSS: LCD will show Ct01~51, detailed like CTCSS code table.
- DCS: LCD will show dC:01~83, detailed like DCS code table.

\*The Sub-Tone code for transmitting and receiving is the same.

\*Sub-Tone code indicates a small number icon to the right of the channel number icon. When **88** is displayed, there are 51 groups of CTCSS. When the display is **:88**, there are 83 groups of DCS.

\*The Sub-Tone code setting operation is invalid at the memory / SOS channel.

### **LCD Back Light ON / OFF**

Temporarily press [O] (Monitor / Back light key) to turn back light ON. Temporarily press [O] again to turn back light OFF or it will automatically turn OFF the lighting after 10 sec.

### **Monitoring**

Hold on [O] for about 1 sec. Static is heard if the channel is clear or any voice on this channel can be heard regardless of CTCSS or DCS settings. LED glows green.

Monitoring is used for the following purposes.

- To receive weak signals due to distance or for signal intermittently received.
- To receive all signals on same channel even with different CTCSS / DCS settings.

### **Keypad Lock / Unlock**

Hold on [SET] for about 1.5 sec. until  shows on the screen to confirm keypad lock is enabled. To unlock keypad, hold on [SET] again for about 1.5 sec. until  clear from the screen.

\*When keypad lock is enabled, only PTT, LOCK, POWER, Monitoring, LCD back light ON / OFF and Volume control can be operated.

## Function Settings

- Temporarily press [SET] to entry function menu mode.
- In the function menu mode, press [SET] to switch the function menu items F1~F13, and then adjust the function data with [▲] or [▼]. After the adjustment is completed, short press [PTT] will leave the function menu mode and save the changed function data.

### F1 Tone Call

Under menu item 1, tone call off / b1 - b7 can be selected.

Factory default: b1

### F2 Power Save Mode

Under menu item 2, power save modes off / 01-03 can be selected. Choose 03 if talk time is short for best power saving.

Factory default: 02

### F3 VOX ON / OFF

Under menu item 3, VOX ON / OFF can be selected.

When the VOX function is on, if the transmission is triggered by VOX, there will be a beep before transmission, and the VOX icon will continue to blink during transmission, indicating that the current transmission was triggered by VOX.

Factory default: OFF

### F4 VOX Sensitivity

Under menu item 4, VOX sensitivity levels 1-9 can be selected. L9 is least sensitive.

In this menu item can be directly VOX voice sensitivity test, please speak directly with a microphone, when the volume is enough to trigger VOX, will be issued a beep and flash Tx LED (Red) once, you can choose the appropriate VOX voice sensitivity.

\*If VOX is disabled in F3, this feature is invalid, F4 will hide temporarily.

#### F5 Tx / Rx Different Channel Mode ON / OFF

Under menu item 5, Tx / Rx Different Channel mode ON/OFF can be selected. While this mode is on, if receiving is on any normal channel, the transmission channel will be memory channel or the vice versa.

Factory default: OFF

#### F6 Keypad Tone ON / OFF

Under menu item 6, select ON / OFF to enable / disable the beep sounds. When OFF is selected, the keypad tone / alert sound and power ON / OFF sound will be turned off.

Factory default: ON

#### F7 Auto Power Off

Under menu item 7, choose OFF / 30 / 60 / 120 min. depending on your need. If 30 is selected, the radio automatically turns the power off if none of the keys are operated or no signal received after 30 min.

Factory default: OFF

#### F8 Transmit Time Out Timer

Under menu item 8, choose OFF / 30 / 60 / 90 / 180 / 360 depending on your need. If 30 is selected, with **TOT** icon flash, the radio will stop transmission if continues talk exceeds over 30 sec. and radio will automatically swift to receiving mode. The continuous beep warning and the **TOT** icon flashing will continue until [PTT] is released.

Factory default: 90 sec.

#### F9 Squelch Setting

Under menu item 9, choose squelch level 0 to 7 depending on your need. If the squelch level is at 0, the static sound is heard all the time. If set at level 1, the radio is best to pick up weak signal but susceptible to interferences. Squelch level 7 is the least sensitive and suited for use against high interferences.

Factory default: Level 3

#### F10 Repeater ON / OFF

The function is not in use for PMR type.

\*F10 does not appear on the PMR type device.

#### F11 End of Call Confirmation ON / OFF

Under menu item 11, when the function is on, each time the Call is finished, the unit will send a tone to confirm the end of the call.

Factory default: OFF

#### F12 Busy Tone Lockout (BTL) ON / OFF

Under menu item 12, BTL ON / OFF can be selected.

When the function is on, if the signal matching CTCSS / DCS is receiving, TX is forbidden for fear of interrupting the occupied busy channel. If you want to transmission (PTT / Vox) at this time, the machine will issue a warning beep and display "btL" on the LCD to remind the channel is busy.

Factory default: OFF

#### F13 Scrambler Setting

Under menu item 13, the radio sets off / 1-9 codes of scrambler to measure a radio signal securely. It can only understand by someone who has special group at the same code. You can't communicate clearly with different scrambler code settings.

Factory default: OFF

#### **Tone Call**

Holding [PTT], temporarily press [CTS] to send tone call to other receivers. (For selection of tone call, refer to F1.)

## **VOX ON / OFF**

Holding [PTT], temporarily press [SET] to enable VOX. To disable it, holding [PTT] and temporarily press [SET] again. When VOX is enabled, the  icon appears. (For selection of VOX sensitivity, refer to F4.)

\*While VOX is enabled, press of [PTT] is no longer required during transmission. Just talk into the microphone area with appropriate sound (depending on VOX sensitivity).

## **Tx / Rx Different Channel Mode ON / OFF**

Holding [PTT], temporarily press [CH] until LCD screen shows  to enable this feature. To disable it, holding [PTT] and temporarily press [CH] again until  disappears from LCD screen.

\*This feature is invalid in SOS channel.

## **Memory Channel**

- Holding [CH], temporarily press [▼] to select memory channel. The memory channel is marked with a .
- Holding [CH], temporarily press [▲] to restore to the original normal channel.

\*For memory channel setting, refer to "Memory channel and SOS channel setting."

Factory default: CH01 and CTCSS / DCS OFF.

## **SOS (Emergency) Channel**

Hold [CH] for about 3 sec. to enable SOS channel until  shows on the screen. To disable SOS channel, hold [CH] for about 3 sec. until  disappears and then restore to the original normal channel.

\*For SOS channel setting, refer to "Memory channel and SOS channel setting."

Factory default: CH01 and CTCSS / DCS OFF.

## Dual Watch Scan

Momentarily press [CH]. While channel number icon blinks, holding both [▲] and [▼] simultaneously to start this feature. The LCD show **D** and **SCAN** indicates Dual Watch Scan in progress.

- In the dual watch scan, will be the normal channel and memory channels alternate listen. Regardless whether of the normal channel received signal or not, every 5 seconds, the receipt will be temporarily switched to the memory channel 0.2 seconds, check whether the signal is received at the memory channel, if the signal is received at the memory channel, will stay on the memory channel until no signal is received exceed 5 seconds, the receipt will back to the normal channel, or no signal is received at the memory channel, the receipt will back to the normal channel Immediately.

- When the signal is received at the memory channel, pressing [PTT] will talk on the memory channel, otherwise will talk on the normal channel, release [PTT] will be continued to dual watch scan after 5 sec.

\*In the dual watch scan, press [SET] / [CH] will stop the dual watch scan and return to the normal channel.

\*VOX is invalid, when Dual Watch Scan in progress

## Memory Channel and SOS Channel Setting

1. Select favorite channel and CTSS / DCS.
2. Hold [CH] and [SET] until the LCD starts flashing  indicating that you have entered the Memory / SOS channel setting mode, and you can release [CH] and [SET].
3. You can select the Memory channel (  flashing) or the SOS channel (  flashing) by pressing [▲] or [▼] in the Memory channel and SOS channel setting mode. After selecting, press [SET] to set the Memory channel or SOS channel, and exit setting mode.
4. In the Memory channel and SOS channel setting mode, press [CH] or [PTT] or [CTS] briefly to exit the setting mode, but not save any setting.

## Low Battery Power Warning

1. When the battery level is low, the  icon flashes, a beep warning is issued every minute, and a beep warning is issued at the beginning of the transmission.
2. When the battery is seriously low, the  icon flashes, two beeps per minute, and two beeps at the beginning of the transmission.
3. When the battery is exhausted, the unit will shut down automatically.

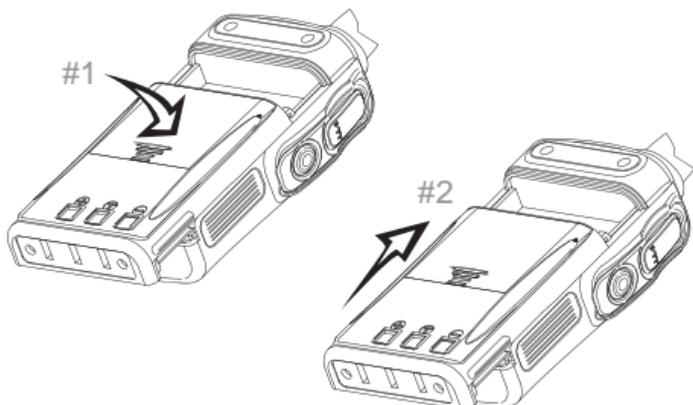
## Restore to Factory Default Settings

1. Turn power OFF.
2. Hold [SET] and press  until you hear 3 beep sounds and then release all button.
3. The factory default settings will restore.

# Installing / Removing Battery Pack

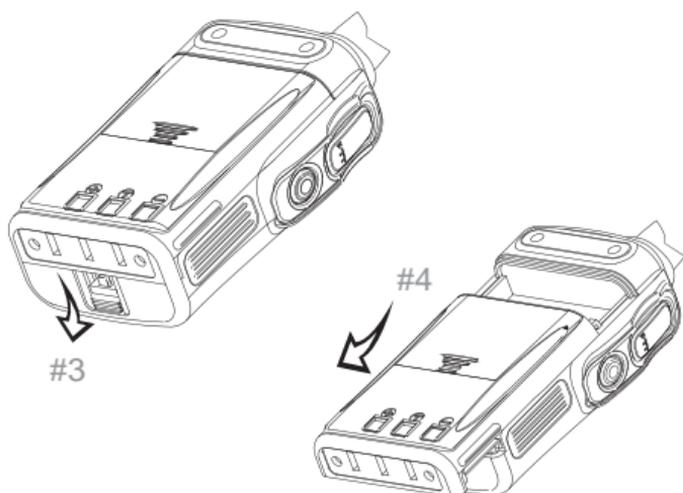
## To Install

1. Place the battery pack into battery compartment as in illus #1.
2. Push battery pack forward as in illus #2. It will lock into compartment.



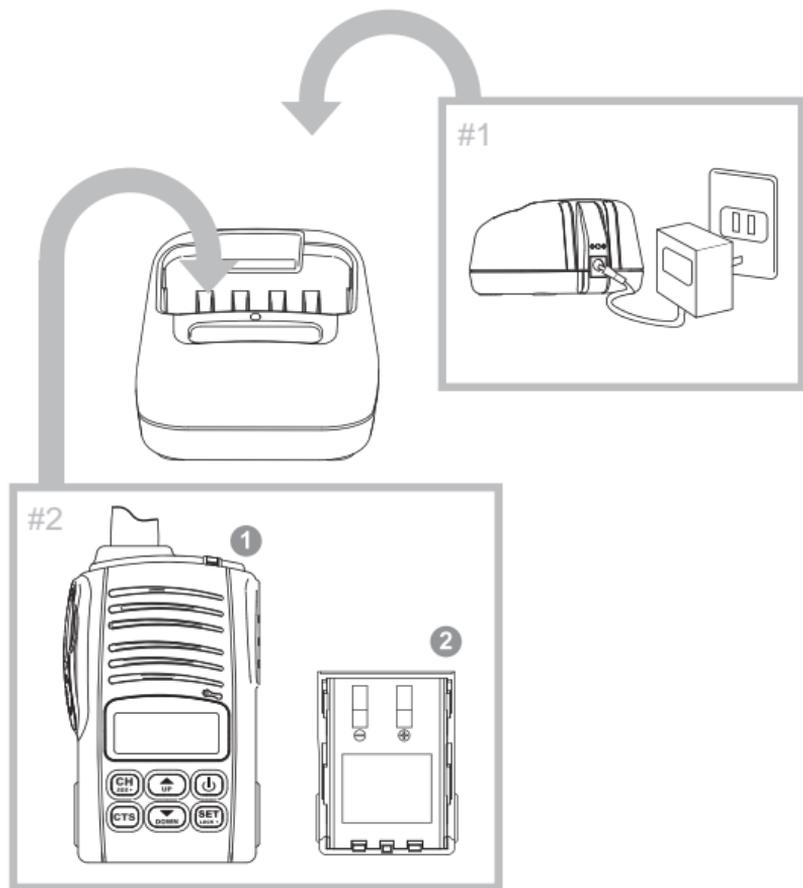
## To Remove

1. Holding the radio in one hand, push down battery latch as in illus #3.
2. Slide battery pack backwards as in illus #4.



# Battery Charging

1. Power drop-in charger with standard AC / DC wall charger #1.
2. Drop radio with installed battery into the charger slot #2.



## LED Indication

Green LED: Standby Mode

Green Flash LED: Charge Complete

Red LED: Charging

Red Flash LED: Battery NG

## PMR Type Channel Frequency Table

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	446.00625	9	446.10625
2	446.01875	10	446.11875
3	446.03125	11	446.13125
4	446.04375	12	446.14375
5	446.05625	13	446.15625
6	446.06875	14	446.16875
7	446.08125	15	446.18125
8	446.09375	16	446.19375

## CTCSS Code Table

1	67.0	11	97.4	21	136.5	31	192.8	41	165.5
2	71.9	12	100.0	22	141.3	32	203.5	42	171.3
3	74.4	13	103.5	23	146.2	33	210.7	43	177.3
4	77.0	14	107.2	24	151.4	34	218.1	44	183.5
5	79.7	15	110.9	25	156.7	35	225.7	45	189.9
6	82.5	16	114.8	26	162.2	36	233.6	46	196.6
7	85.4	17	118.8	27	167.9	37	241.8	47	199.5
8	88.5	18	123.0	28	173.8	38	250.3	48	206.5
9	91.5	19	127.3	29	179.9	39	259.4	49	229.1
10	94.8	20	131.8	30	186.2	40	159.8	50	254.1
								51	62.5

# DCS Code Table

1	023	19	131	37	261	55	431	73	654
2	025	20	132	38	263	56	432	74	662
3	026	21	134	39	265	57	445	75	664
4	031	22	143	40	271	58	464	76	703
5	032	23	152	41	306	59	465	77	712
6	043	24	155	42	311	60	466	78	723
7	047	25	156	43	315	61	503	79	731
8	051	26	162	44	331	62	506	80	732
9	054	27	165	45	343	63	516	81	734
10	065	28	172	46	346	64	532	82	743
11	071	29	174	47	351	65	546	83	754
12	072	30	205	48	364	66	565		
13	073	31	223	49	365	67	606		
14	074	32	226	50	371	68	612		
15	114	33	243	51	411	69	624		
16	115	34	244	52	412	70	627		
17	116	35	245	53	413	71	631		
18	125	36	251	54	423	72	632		

# Specifications

<b>Modulation Mode</b>	FM
<b>SAR</b>	0.48 W/Kg
<b>Number of Channels</b>	16 (446.00625~446.19375MHz)
<b>Number of CTCSS</b>	51 (62.5.0~254.1Hz)
<b>Number of DCS</b>	83 (023~754)
<b>Antenna Gain</b>	1.8dBi
<b>Antenna Impedance</b>	50Ω
<b>Frequency Stability</b>	1.5ppm
<b>Max Frequency Deviation</b>	+/- 2.5kHz
<b>Frequency Resolution</b>	12.5kHz
<b>Power Supply</b>	7.2V
<b>RX Current</b>	< 40mA (auto save off)
<b>Audio Output Power</b>	> 500mW
<b>RF Output Power</b>	< 500mW
<b>Sensitivity(12dB sinad)</b>	< 0.22μV
<b>Operating Temp. Range</b>	-30°C to +70°C
<b>Weight</b>	220g (with antenna & battery)
<b>Dimension(H×W×D)</b>	95×60×34mm (w/o antenna)
<b>External Mic Connector</b>	2.5 mm(d), 3-conductor
<b>External SP Connector</b>	3.5 mm(d), 2-conductor

# CE DECLARATION OF CONFORMITY

In compliance with the procedure specified in RD\_061, Wintec declares as designed Notified Body 0560 for the European Radio Equipment Directive, that the radio equipment type LP-4502+, complies with the essential requirements, in accordance with Articles 3 of Directive 2014/53/EU.

## Technical Standards and Specifications

The product is complaints with:

Draft EN 301-489-1 V2.2.0: March, 2017

Draft EN 301-489-5 V2.2.0: March, 2017

EN 300 296 V2.1.1: March, 2016

EN 50566: March, 2013

EN 60065: December, 2014

EN 62209-2: June, 2010

EU-type examination: 172140970/AA/00.



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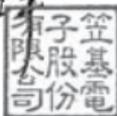
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Signature

張振坤  
A red square seal impression containing the Chinese characters '笠基電' (Lishi Electric) and '子股' (Shareholder) in a stylized seal script.

**Wintec**<sup>®</sup>  
*wireless electronics*