

# 1.Universal Command

## AT

AT	
Description	Instructions to test whether the AT framework is working properly
Response	OK The AT command test was successful
	ERR The AT command test failed
Example	Send: AT  Response: OK

## AT+SAVE

AT+SAVE	
Description	Save configuration
Response	OK Save success
	ERR Save failed
Example	Send: AT+SAVE  Response: OK

## AT+GETVER

AT+GETVER	
Description	Get the software version number
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+GETVER

	Response:  getver software:V1.0.0 OK
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## AT+RESTART

AT+RESTART	
Description	Reset and restart
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+RESTART  Response: OK

## AT+RESTORE

AT+RESTORE	
Description	Return to factory mode
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+RESTORE  Response: OK

## AT+GETWORKMODE

AT+GETWORKMODE	
Description	Query the working mode (0: Normal working mode 1: Production test mode)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed

Example	Send: AT+GETWORKMODE  Response: workmode: 0  OK
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## AT+SETWORKMODE

AT+SETWORKMODE=X	
Description	Set the working modeX: 0: Normal working mode    1: Production test mode
Response	OK    The AT command was processed successfully
	ERR    The AT command processing failed
Example	Send: AT+SETWORKMODE=1  Response: workmode: 1  ok

## AT+GETCFG

AT+GETCFG	
Description	Get configuration information
Response	OK    The AT command was processed successfully
	ERR    The AT command processing failed
Example	Send: AT+GETCFG  Response:  getcfg ID:65535, Role:0, CH:1, Rate:1,    Group:1  OK

## AT+SETCFG

AT+SETCFG=X1,X2,X3,1, X4	
Description	Set configuration information (After configuration, execute the save

	<b>instruction)</b> x1: Device ID(0~10) x2: Device roles(0: tag 1: anchor) x3: Device channel(0: channel 9 1: channel 5) <b>1:(Device rate 6.8M)(Currently only supports 6.8M)</b> X4: node group(0~255) (Base stations need to be equipped, All tags are set to 0 by default)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+SETCFG=0,1,0,1, 1  Response:  setcfg ID:0, Role:1, CH:0, Rate:1, Group:1 OK

# 1. Development board production test command

## AT+GETSENSOR

AT+GETSENSOR	
Description	Development board production test instructions( <b>Note: BU03 support, BU04 hardware does not support</b> )
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+GETSENSOR  Response:  acc_x:0.000000 acc_x:0.000000 acc_x:0.000000 angle:0.000000 OK

## AT+TESTLED

AT+TESTLED = X	
Description	Start/stop development board LED (flow light) test (Note: Use before executing AT+SETCFG to configure device information) X: 1: Start test led 0: Stop test led
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+TESTLED = 1  Response: OK

## AT+TESTOLED

AT+TESTOLED	
Description	Test development board screen (screen display) (Note: Use before executing AT+SETCFG to configure device information)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+TESTOLED=HELLO TEST!  Response: OK

## AT+DISTANCE

AT+DISTANCE	
Description	Ranging (after configuration)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+DISTANCE  Response: distance: 0.340000  OK

## 2. TWR algorithm specific command

### AT+GETDEV

AT+GETDEV	
Description	Get the coefficient of the setting
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+GETDEV  Response: OK

### AT+SETDEV

AT+SETDEV=X1,X2,X3,X4,X5,X6,X7,X8,X9	
Description	Set the coefficient of the device (After configuration, execute the save instruction) x1: Tag capacity (tag refresh rate) X2: Antenna delay parameter x3: Whether the Kalman filter is enabled x4: Kalman filter parameter Q X5: Kalman filter parameter R x6: Correct parameter a x7: Correct parameter b X8: Whether the positioning enable bit is enabled X9: Positioning dimension Settings
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+SETDEV=5,16336,1,0.018,0.642,1.0000,0.00,0,0  Response:

	gtdev cap:5 anndelay:16336, kalman_enable:1, kalman_Q:0.018, kalman_R:0.642, para_a:1.0000, para_b:0.00, pos_enable:0, pos_dimen:0 OK
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### 3. Special command for PDOA algorithm

#### AT+DECA\$

AT+DECA\$	
Description	PDOA PC software certification
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<div>Send: AT+DECA\$</div> <div><pre>[14:16:49.521]收←◆J008D{"Info":{"Device":"PDOA Node", "Version":"V1.0.0", "Build":"Jul 19 2024 13:59:55", "Driver":"DW3000 CO Device Driver Version 04.00.00"}}</pre></div> <div>Response: OK</div>

#### AT+GETDLIST

AT+GETDLIST	
Description	Get [Discovery List] (Note: only applicable to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<div>Send: AT+GETDLIST</div> <div><pre>[14:50:48.124]收←◆{DList":["000000004E818834"]}</pre></div> <div>Response: OK</div>

## AT+GETKLIST

AT+GETKLIST	
Description	Get [pairing list] (Note: only applicable to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<p>Send: AT+GETKLIST</p> <p>Response:</p> <pre>[14:52:17.056]RX&lt;--◆[KList": [{"slot": "0001", "a64": "000000004E818834", "a16": "8834", "F": "0001", "S": "0040", "M": "0000"}]] OK</pre>

## AT+ADDTAG

AT+ADDTAG	
Description	Add tags to [pairing list] (Note: only applies to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<p>Send: AT+ADDTAG=000000004E818834,8834,1,64,0</p> <p>Response:</p> <pre>[14:51:27.383]RX&lt;--◆J0064{"TagAdded": {"slot": "0001", "a64": "000000004E818834", "a16": "8834", "F": "0001", "S": "0040", "M": "0000"}} OK</pre>

## AT+DELTAG

AT+DELTAG	
Description	Remove the tag from the [pairing list] (Note: only applies to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<p>Send: AT+DELTAG=000000004E818834</p> <p>Response:</p> <pre>[14:52:49.883]RX&lt;--◆J0022{"TagDeleted": "4e818834"} OK</pre>



## AT+PDOAOFF

AT+PDOAOFF	
Description	Angle correction (Note: only applicable to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+PDOAOFF=1  Response: OK

## AT+RNGOFF

AT+RNGOFF	
Description	Distance correction (Note: applies only to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+RNGOFF=1  Response: OK

## AT+FILTER

AT+FILTER	
Description	Enable filtering (Note: only applicable to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+FILTER=1  Response: OK

## AT+UARTRATE

AT+UARTRATE	
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Description	Serial port rate (Note: only applicable to base station)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+UARTRATE=100  Response: OK

## AT+USER\_CMD

AT+USER_CMD	
Description	Output format (Note: only applicable to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+USER_CMD=0  Response: OK

## AT+PDOASETCFG

AT+PDOASETCFG	
Description	Configuration parameters (Note: only applicable to base stations)
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	Send: AT+PDOASETCFG=1,1,3333,1,100,0,0  Response:  <pre>[14:56:25.751]收←◆gtcfg Dlist:1 KList:1 Net:0D05 AncID:1 Rate:100 Filter:0 UserCmd:0 pdoaOffset:1 rngOffset:0 OK</pre>

## AT+PDOAGETCFG

AT+PDOAGETCFG	
Description	Get configuration parameters
Response	OK The AT command was processed successfully

	ERR The AT command processing failed
Example	<p>Send: AT+PDOAGETCFG</p> <p>Response:</p> <pre>[14:56:59.940]收←◆gtcfg Dlist:1 Klist:1 Net:0D05 AncID:1 Rate:100 Filter:0 UserCmd:0 pdoaOffset:1 rngOffset:0 OK</pre>

## 4. Algorithm switch command

### AT+SETUWBMODE

AT+SETUWBMODE=X	
Description	<p>Algorithm selection (set and save)</p> <p>X: 0: TWR</p> <p>1:PDOA</p>
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<p>Send:</p> <p>Response:</p>

### AT+GETUWBMODE

AT+GETUWBMODE	
Description	Query the current algorithm
Response	OK The AT command was processed successfully
	ERR The AT command processing failed
Example	<p>Send:</p> <p>Response:</p>