Wireless Power Reference Design

User Guide

Part Number: EVB-WP300TX14 & EVB-WP300RX14

Rev #200304 March 18, 2020

Note!

Input voltage set in advance of wireless charging launch end is 24V, the input voltage higher than 37V will damage the circuit board.

Power supply connecting please use thick wire line and Y-type terminal lock connecting circuit board



use simple fixture connect power supply, operating can't stabilize working when output big current





Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance.



Display introduce of setting board

PAGE 1 - Power-on status display



Power-on succeeds

Boot V+ 24.24V	Power-on voltage display. The voltage needs to be set in the rage and then it will continue to operate.
-8	Check the difference between value of coil resonance oscillation frequency and recorded value Complete equation is±0, will display +999~-999 when it has deviation If the difference bigger than set item 25 [Limit]L-C ACC GAP then will be locked and can't finish the start program
ResonantFreq 85.8KHz	Resonant frequency composed of TX and capacitors detected during power-on
P.O.S.T→OK	Power . On . Self . Test pass
FuDaTong A6	Product name
#200304	Software version number YYMMDD

Pow SelfTest Failure V+ 5.01V Vin is too LOW Standard Vin =24.00V

supply voltage is too low

Pow SelfTest Failure	Power-on self-test failure
V+ 5.01V	Detected voltage
Vin is too LOW	Input Voltage is too low
Standard Vin =24.00V	Recommending voltage using

Pow SelfTest Failure V+ 25.66V Vin is too HI Standard Vin =24.00V

Supply voltage is too high

V+ 25.66V	Detected voltage
Vin is too HI	Input voltage is too high
Standard Vin =24.00V	Recommending voltage using



Part fault

MOSFET FAULT	Drive element fault
U4x 0.00	Fault in P/N U4 , the detected output voltage is
	0.00V
[12]x	Pin12 Judging fault of IC corresponding port
U5 4.92	Part Number U5 is normal, the detected output
	voltage is 4.92V
[13] [14] [15]	No fault detected in Pin13, 14, and 15 of IC
	corresponding port



Part fault

U4 4.95	Part Number U4 is normal, the detected output
	voltage is 4.95V
[13]x	Pin13 Judging fault of IC corresponding port
U5x 0.00	Fault in part number U5, the detected output voltage
	is 0.00V
[12] [14] [15]	No fault detected in Pin 12, 14, and 15 of IC
	corresponding port



Part fault

U4 4.95	Part Number U4 is normal, the detected output
	voltage is 4.95V
[14]x	Judging fault in Pin14 of IC corresponding port
U5x 0.00	Fault in Part Number U5, the detected output voltage
	is 0.00V
[12] [13] [15]	No fault detected in Pin12, 13, and 15 of IC
	corresponding port



Part fault

U4 4.95	The Part Number U4 is normal, the detective output
	voltage is 4.95V
[15]x	Judging fault in Pin15 of IC corresponding port
U5 4.95	Part number U5 is normal, the detected output
	voltage is 4.95V
[12] [13] [14]	No fault detected in Pin12, 13, and 14 of IC
	corresponding port

Pow SelfTest Failure COIL FAULT U4 4.95 [12] [15] U5 4.95 [13] [14]

Part fault

COIL FAULT	Coil fault
	*Usually it is because of the loop open circuit of
	the coil and the capacitance, or the fault of coil
	voltage detective divider resistance
U4 4.95	Part number U4 is normal, the detected output

	voltage is 4.95V
U5 4.95	Part number U5 is normal, the detected output
	voltage is 4.95V
[12] [13] [14] [15]	No fault detected in Pin12, 13, 14, and 15 of IC
	corresponding port



The coil and the capacitance is too large, which causes the resonant frequency becomes too low

L^C too Large	The inductance value of coil and the capacitance are
	too large
43.3	The measurement of resonant frequency is 43.3 KHz
U4 4.91	Part number U4 is normal, the detected output
	voltage is 4.91V
U5 4.91	Part number U5 is normal, the detected output
	voltage is 4.91V
[12] [13] [14] [15]	No fault is detected in Pin12, 13, 14 and 15 of IC
	corresponding port



The coil and the capacitance are too small, which caused the resonant frequency too high

L^C too Small	The coil inductance value and capacitance are too
	Sild11
145.9	The measurement of resonant frequency is 145.9KHz
U4 24.19	Part number U4 is normal, the detected output
	voltage is 24.19V
U5 24.02	The part number U5 is normal, the detected output
	voltage is 24.02V
[12] [13] [14] [15]	No fault is detected in Pin12, 13, 14, and 15of IC
	corresponding port

PAGE 2 - Main operation status display



Standby surveillance mode

+24。 C	The detected temperature, when there are more than
	one temperature sensors, they will display the
	highest temperature value among them and use the
	highest temperature to judge if to launch the excess
	temperature protection action
LCsacn	LC infers to the resonant TANK constituted by the
	coil and the capacitance, the mode is to scan such
	resonant frequency and use the gained value to judge
	if it is necessary to enter into the power supply
	action
74.3KHz	The current detected resonant frequency is 74.3KHz
24.02V	The current input voltage is 24.02 V
0.01A	The current input electricity is 0.01A
0.2W	The current input power is 0.2W
72.0/Hi	Set the upper resonant frequency limit of the RX
	launching electricity transmission
66.4/Lo	Set the lower resonant frequency of the RX launching
	electricity transmission
	The measurement of resonant frequency need to be
	between the upper and the lower limit, will it be
	launched to transmit the electricity
Search.	Searching if there is RX approaching
t	Already launched the control of thrust system
	*press C in the screen will switch to drive mode
	t is the thrust control mode (thrust control on)
	F is the full-thrust mode (thrust control off)



Ν	Already launched the NFC device detection protection
	function
	Under the situation that operating temperature
	changes or foreign matter on the coil when start
	machine, these will caused NFC detection can't
	running normally, and will close the NFC detection
	functional automatically, mark N not display
n	If the original N mark changed to be lower-case n,
	represent the current running temperature different
	to recorded value, differentiate ability will
	falling down.
@	Calibrate mark , the module which already finished
	coil calibration display this symbol
	The calibration program is writ the parameters of
	coil into ROM of A6 Only the module which finished
	calibration can start the NFC detection functional



Standby detection mode	Metal foreign body detected
Metal-FOD	Metal foreign body is detected on the main coil, no
	electricity transmission conducted before removing
	the metal foreign body



Standby detection modeNFC signal detectedFind <NFC>NFC signal reactor device is detected on the
auxiliary coil, no electricity is conducted before
the removal



Standby detection mode	High frequency magnetic car is detected
[RF COIL]	The device of high frequency magnetic card is
	detected on the auxiliary coil, no electricity
	transmission is conducted before the removal



Standby detection mode	RX coil is approaching
COIL MOVING	According to the result of resonant frequency
	scanning, judge that RX coil is approaching, the
	coil is still on moving, no power transmission
	detection is launched yet



Power transmission launching detection mode (thrust control on)

49.9∕V	The peak-to-peak value of the resonant on the coil
105.1 KHz	The working frequency of U4 and U5 output drive

Upwards arrow shows the measurement result of the
value compared to the last time is performing the
uptrend
Downwards arrow shows the measurement result of the
value compared to the last time is performing the
downtrend



Power transmission launching detection mode (thrust control off)

t-off Inrust control off	t-off	Thrust control off
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Standby detection mode	RX coil is approaching
COIL ERROR	RX device is approaching, after launching the power
	transmission detection the RX device has no
	response, if the result happens again and again that
	the RX is approaching, it might be the breakdown of
	the RX circuit



FOD→	After RX is approaching and it starts to supply the
	power, turn on the detection status of the metal
	foreign body detection function
	There are four type of thickness, the thicker shows
	the higher possibility of metal foreign body
	If the sign is "?", it shows invalid of the current
	detection

t88	Thrust control system; thrust decrement
	99 is the lowest thrust, it shows the output
	waveform phase differentiates 90 degrees of U4 and
	U5
	The smaller the number that shows the increase in
	thrust, the more the output waveform phase
	difference is approaching to 180 degree.
	When the biggest thrust output is 0, it will display
	FULL
	Under the thrust control, it will adjust the thrust
	application amount p to 50 which is the smallest
	value, if the thrust use quantity p is relatively
	small, it will increase the thrust decrement
	After the increase of system electric power, thrust
	control system will automatically increase thrust
p50	when the coil input thrust application amount p is
	no-load, the output of the coil waveform and U4, U5
	is performing the same phase shift amount of phase
	position as 0 degree, the calculated thrust
	application amount is 0%
	After the output power increases, the output of coil
	waveform and U4, U5 will phase shift, when the
	largest phase shift is 90 degree, the calculated
	thrust application amount is 99%
	The largest thrust used in the system is having
	relations with coil design, sensor distance, and
	drive voltage We suggest that no excess 80% in use
	so that the system can be relatively stabled
56	The nearest coil sensor distance of the delivery
	noint and the receiving end is 99 and the farthest
	is 0 it is the value calculated by using the
	resonant frequency when the distance is too far it
	will directly cut off the electric nower
	transmission
99	Continuous decoding success rate the last 99 times
	of the decoding success rate, the largest is 99 and
	the smallest is 0 if the decoding success nate is
	lowen than 10 it will cut off the electricity neven
	transmission
	T is the enterned signal intersity black masse full
I∎ 32.0[/]V	and it chous the signal intensity is in a seed
	and it shows the signal intensity is in a good
	status

	32.0 means 32.0 volt in the direct voltage behind the RX port rectifier
313	The system calculates the RX voltage regulation target value that is going to be set The quantitative value is calculated according to the system set value, which is used for corresponding the sensor power supply system load drive capability of the power supply and the
	receiving end



Wireless power transmitting (thrust control off)

t-off	Thrust control off
p07	Under the thrust application amount 07, the drive is
	the full-thrust output, so its thrust application
	amount will be relatively low



Wireless power transmitting

t61	Driver thrust decrement is 61
p49	Thrust application amount is 49



FULL	The driver is on full-thrust output
2.25A	The system current is 2.25A, when the system current
	increases, it will automatically complement the
	thrust, so the thrust application amount is lower
	than 50



Wireless power transmitting

A	High thrust application amount marking
83	Decoding success rate is 83%, because of the dynamic
	load or other interference factors, the decoding
	success rate will decrease



Wireless power transmitting

Т4	Signal intensity 4, because of the dynamic load or
	other interference factors, the coding signal from
	RX will have changes between strong and weak, block
	means the signal is the strongest, the smaller the
	number shows the worse the signal



#4	The voltage value is breakaway from the scope count
	when receiving RX data, display 4 means it has
	already received 4 times of abnormal voltage data
	continuously, most of the reasons are dynamic load
	or other interference factors
	If this situation occurs continuously, it means the
	data decoding sensitivity is set as excessive
	sensible



Wireless power transmitting

Тх	No data signal from RX has been received
19/ 200	Under the condition of RX breaking signals, as long
	as the RX measuring coil position does not move, it
	will not immediately cut off electric the power
	transmission and it will enter into timing process,
	after time's up, if there is still no signal
	recovered then it will cut off the electric power.
	19/200 means timing to 200 will cut off the electric
	power, and the current time counting is 19. At this
	moment the timer will increases 20 values in every
	second, and 200 is the time length of 10 seconds.



The end of wireless power transmission

RxEND27.6 V	After ending the electric power transmission, the
	last receiving RX port voltage data is 27.6V



+41。C	Detected temperature
	*the sample limits the temperature to be 40 degree
OT!2	Caution of over high temperature, time for the 2
	second, when the time of the over high temperature
	reaches 10 seconds it will be locked for protection



+41。 C	Detected temperature
	*in this sample, the temperature limitation is 40
	degree
[OTP] LOCK	Due to the over high temperature, it has entered
	into lock status, and will not conduct the action of
	electric power transmission
Below 38° C to unlock	The system design is that it need to be 2 degrees
	lower than the limited temperature can it be
	unlocked protection

PAGE 3 - System limit value display



Limit value display list

Tx Limit	Tx indicates the power supply port, the content of
	this page is the limit value of power supply's input
	power
23.91 V	The current measured input voltage is 23.91V
9.01 A	The current measured input current is 9.01A
215.4 W	The input power calculated from the measured voltage
	and the current is 215.4W
V ≥ 23.0	Over low voltage protection limit value, if lower
	than the value it will launch the UVP
V ≤ 25.0	Over high voltage protection limit value, if higher
	than the value it will launch OVP
A ≤ 13.0	Over high current protection limit value, if higher
	than the value it will launch the OCP
W ≤ 300	Over high power protection limit value, if higher
	than the value it will launch the OPP



UVP launching

22.37 V	The current measured input voltage is 22.37 volt
UVP>7	Lower than the limit value, 10 seconds after
	starting counting the time it will launch UVP
	protection, the current timing is at the 7 second
	This is under the condition of the measured voltage
	is still close to the limit value, it will conduct
	counting second timing
	If the gap is too large, it will launch
	automatically



OVP launched

25.66 V	The current measured input voltage is 25.66 volt
OVP←←	Over high voltage protection OVP has been launched



OPP launching

304.9 V	The current measured input power is 304.9W
OPP>1	Higher than the limit value, 10 seconds after timing
	it will launch OPP protection, the current timing is
	at the 1 second

PAGE 4 - Input power monitoring display



Input power monitoring

Pow-IN Monitor	input power monitoring display
Idle 24.06 V	The input power voltage under standby is 24.06V
Load 24.05 V	The on-load voltage is 24.05V
Loss 0.01 V	The current measured wire loss amount
▲ 0.00V	The voltage change amount in the past 1 second, if
	excess 1V it will conduct the voltage instability
	protection
@0.15A	In the record, the largest occurred current value of
	voltage decreasing
→0.01V	In the record, the largest voltage value occurred
	the voltage decreasing
	On this screen, press C to reset the record value



Input power monitoring

▲ 0.01V	The voltage change amount in the past 1 second is 0.01V
@11.36A	In the record, the largest current decreasing has occurred under 11.36 ampere
→0.50V	In the record, the largest occurred voltage decreasing amount is 0.50V The value is the index of input current supply quality



Input power monitoring

@11.56A	In the record, the largest power decreasing has
	occurred under 11.56 ampere
→0.23V	In the record, the largest occurred voltage
	decreasing amount is 0.23V
	Smaller than the 0.05V in the last sample, which
	shows the power supply quality is relatively good

PAGE 5 - Temperature detection display



temperature monitoring

Temp ₀ C▼	Temperature monitor message
PCB +25	The temperature sensor that installed in PCB, the
	temperature is 25 degree
COIL +23	The temperature sensor that installed in COIL, the
	temperature is 23 degree
Limit<70	The system sets the upper temperature limit is 70
	degree, the value can be set in the setting mode
•	The higher temperature sensor in two temperature
	sensors select mark
	The over heating protection is select the higher
	temperature sensor to do judgement.



Caution of over high temperature

over 5 sec	The temperature of any sensor has over the upper
	limit and timed to the 5 th second



Over high temperature lock

[OTP] LOCK	Over high temperature lock status, electric power transmission can be launched until wait after the
	COOTING
over 10 sec	The temperature of any sensor has over the upper
	limit and time to second 10

PAGE 6 - Resonant frequency monitoring



Resonant frequency monitoring

L^C BOOT 72.6 KHz	The first-time measured resonant frequency after
	powering on for the circuit board of the power
	supply port
New PEAK 67.8	The latest measured resonant frequency, the unit is
	KHz
/4120	The period timer value in the internal IC of the
	latest measured resonant frequency
Hi 69.3	Under the system set wireless power transmission,
	the highest resonant frequency
Lo 66.1	Under the system set wireless power transmission,
	the lowest resonant frequency
alignment 45%	The current measured resonant frequency
	Equal to the value of Lo, which shows that the coil
	between RX and TX is the closest, the calculated
	value is 99% , Equal to the value of Hi, which
	shows that the coil between RX and TX is the
	farthest, the calculated value is 0% , No wireless
	power transmission will be conducted over this scope
PWMout/ 91.8	Driver output frequency

PAGE 7 - LED Status



LED display status

LED < 1s	Symbol <, every block that it turn left means the
	time of 0.1 second
1R	Code 1, red LED, when the closest block is cube,
	means lightening
2Y	Code 2, yellow LED, when the closest block is cube,
	means lightening
3G	Code 3, green LED, when the closest block is cube,
	means lightening

PAGE 8 - Pin Level status



Button status

[25]2A=H	The button 2A linked by Pin25 of IC port is
	currently a high potential
[26]2B=H	The button 2B linked by Pin26 of IC port is
	currently a high potential
[27]1A=H	The button 1A linked by Pin27 of IC port is
	currently a high potential
[28]1B=H	The button 1B linked by Pin28 of IC port is
	currently a high potential
[31]1C=H	The button 1C linked by Pin31 of IC port is
	currently a high potential
[20]BZ=L	The buzzer drive switch linked by Pin 20 of IC port
	is currently a low potential

PAGE 9 - Error Code Notice



Normal operation

NO ERROR

No error ; Normally operating



Error Occurrence

ERROR-1021	Error code 1021
V+ Input too Small	The input voltage is too small
After 3s5 Restartrd	Countdown, restart after 3.5 seconds



Error occurrence

ERROR-1051	Error code 1051
[TX-OPP] OVERPOWER	Over high power protection



Error occurrence

ERROR-2410	Error code 2410
V+ Input Unstable	TX current change amount in a short time is too
	large

Error code list

ERROR-	
ERROR-1021	Low voltage protection
ERROR-1031	Over voltage protection
ERROR-1041	Over current protection
ERROR-1051	Over power protection
ERROR-2040	[15] THDN-1 input abnormal, U4 over high temperature
ERROR-2050	[14] THDN-2 input abnormal, U5 over high temperature
ERROR-2100	coil voltage is too high
ERROR-2110	coil voltage is too low
ERROR-2123	[21] and [23] are occurring mismatching
ERROR-2410	TX current change amount in a short time is too
	large
ERROR-3100	Invalid waif, the coil voltage is too high
ERROR-3110	Invalid waif, the coil voltage is too low
ERROR-4010	Coil abnormal, open circuit
ERROR-4020	Capacitance abnormal, open circuit
ERROR-4030	The match between coil and capacitance is too large
ERROR-4040	The match between coil and capacitance is too small
ERROR-4050	U4 thrust output abnormal
ERROR-4060	U5 thrust output abnormal
ERROR-4070	[12] PWM1-H output abnormal
ERROR-4080	[13] PWM1-L output abnormal
ERROR-4090	[14] drive part temperature abnormal
ERROR-4100	[15] drive part temperature abnormal
ERROR-4110	Launching input power is too high
ERROR-4120	Launching input power is too low

PAGE A - (Foreign Object Detection) Metal foreign body detection status The detection in the electric power transmission



Not in the electric power transmission

FOD RX Offline	If not in the electric power transmission, and under
	the RX offline condition, this page will be leave
	unused with no action taken



Electric power transmitting

•	5
FOD RX Online	RX online, in the wireless power transmission, in
	the metal foreign body analysis
METAL RATIO: 0.0%	The current judged metal foreign body probability is
	0%, when the judging reaches to 99.9% it will cut
	off the electric power transmission
1 2 3 4	Metal foreign body judging signal intensity, one
Т	block means in safe status, four full blocks means
	there is metal foreign body
CATCH→ 225	The larger the current metal foreign body measured
	value, the safer, there might not have the
	possibility of metal foreign body
↓184	In this page, it is the smallest value of the
	obtained metal foreign body measured value in the
	past Press C to reset, the value is used for
	observing that the minimum value that might be
	occurred in metal foreign body judging in system
	operation, it is used for assisting to set the
	critical value
LEVEL→ 140	Judging the critical value, if the measured value is
	lower than the value it will be judged having metal
	foreign body
+85	The gap between the measure value and the critical
	value 225-140=85



Approximate to the differentiate criticality

1 2 3 4	Differentiate block number is the observed resonant
Т 🖩 📲	period frequency after stopping driving, the more
	times it stops the more accurate the can be
	differentiation, but it will decrease the power
	supply quality
+10	Gap between the measure value and the critical value



Approximate to the differentiate criticality

1234If the measured value is lower than the criticality,TII
T
the second se
observing the change amount of resonant period
-1 The gap between measure value and critical value,
negative value means there is metal
54.0% It has started to accumulate the differentiate
value, the metal foreign body differentiation is
using the method of seize accumulation to conduct
the differentiation evidence of the last closing
electric power transmission action



Metal foreign body confirmed, close the electric power transmissionMETAL RATIO: 99.9%The metal foreign body differentiation accumulation
device has reached to 99.9% of confirmSTOP OUTPUTStop the output drive signalAfter 2s3 RestartedCountdown timing, prepare for restart

PAGE B - (Foreign Object Detection) Metal foreign body detection status the detection before the electric power transmission



Wireless power transmitting

FOD LC SCAN Stop	RX online. Wireless power transmitting, stop the
	method of LC scanning and conduct the metal foreign
	body detection



Before the Wireless power transmission

Before the Wireless power transmission, conduct the
method of LC scanning and to conduct the metal
foreign body detection
Differentiate the critical set basic value
The system automatically adjusted differentiate
critical value, if lower than the value it will
target that there is metal foreign body therefore
not to launch the wireless power transmission
Measurement reading value, the bigger the value is
shows the lower the possibility of having metal
foreign body
Change volume during the LC scan frequency
Change volume during the LC detect the descend
length of FOD
Differentiate the gap from reading value to the
critical value, the large the value is showing the
lower possibility of having metal foreign body



possessing metal foreign body

→056 -39	If the measurement reading value is lower than the
	limit value, it will be judged as possessing metal
	foreign body, and stop electric power transmission



8	The change volume of NFC detect the signal on coil
1160	Up limit of NFC signal numerical value judge higher than this value then will enter into [RF COIL] lock status
1088	The latest one NFC signal detected numerical value
1024	Down limit of NFC signal numerical value judge lower than this value then will enter into [RF COIL] lock status



Possessing NFC signal

52	The reading number is the quantity of NFC data
	signal, if larger than 20 it will be judged as
	possessing NFC device

PAGE C - Paging of start status display



Boot Status	The start program detect displayed content
V+ 24.01V	The input voltage which detected by start program
RF 74.3	The coil resonance oscillation frequency which
	detected by start program
U4 24.48	Part number U4 is normal, the detected output
	voltage is 24.48V
U5 24.55	Part number U5 is normal, the detected output
	voltage is 24.55V
[12] [13] [14] [15]	No fault is detected in Pin12, 13, 14 and 15 of IC
	corresponding port



/	The temperature record value in the calibration
	datumis the content without records
LC	Coil resonance oscillation frequency recorded value
FOD	Metal foreign matter recorded value
Х	NFC detection currently is close status
NFC	NFC detection datum recorded value
-	No datum
ROM	Datum in A6 internal memorizer
NEW	The latest detection datum
+24/+23	Detected PCB temperature is +24° Detected coil
	temperature is +23°
3764	The latest coil resonance oscillation frequency
	recorded value
128	The latest metal foreign matter recorded value
1090	The latest NFC detection datum detected value
Push <c>-</c>	Currently not press down button C



Push <c>9</c>	Start counting 0~9 after press down button C	do save
	record value after counted to 9	



PAGE 0 - Operation Counter



Timing after starting-up

Run:	0d00h01m25s7	The time after starting-up will be eliminated in	
		restart	



Timing after electric power transmission

Rx:	0d00h00m13s9	The time after RX online will be eliminated after
		leaving the stop of electric power transmission

SET MODE - Set Mode Menu

- Attention! The set mode has no function of error prevention, wrong settings will lead to the abnormal work of system or cause the damage in hardware
- After having the uncertain value amendment, please use the set of recover to the original setting to recover it to the optimization status



00

SET MODE	set mode
#EVB-v57*	The corresponding circuit board type of the current
	software setting
WARNING! ADJ Value	Warning! Changing the set value might damage the
May Damage Module,	circuit module, please cut the switch to operation
Pls Switch to Run~	for keeping running



01

[OVP] TX POW V MAX	Set the largest input voltage of the supply power
	por c module
RENEW→	Renewed value
BEFORE→	The setting value in the system currently
	Nonius, press C to switch to the adjusted value mode



02	
[UVP] TX POW V MIN	Set the power supply port module smallest input
	voltage

~ ~



[OCP] TX POW I MAX	Set the large	st input	current	of	power	supply	port
	module						



[OPP] TX POW W MAX	Set the largest input power of power supply port	
	module	



[SET] Standard Vin	Displayed on the starting-up page to notice the user
	about the suggesting use of voltage



06	
[Limit] Temp	Limit the highest operation temperature



[Limit] B3 RXV MAX	Limit the largest voltage value behind the rectifier
	on the power receiving end RX



[Limit] B3 RXV MIN	Limit the smallest voltage value behind the
	rectifier on the power receiving end RX



[Ratio] CODE B3→RXV	The multiplying power switched from the value in the
	data coding to the voltage on the B3



[Ratio] CODE B3→RXV	The multiplying power switched from the value in the
	data coding to the voltage on the B3



[TIMER] B3 WAIT OFF	After losing the B3 data signal, it still need to
	maintain the time of continue the wireless power
	transmission



[ADJ] Demod Keen	Decoding sensitivity, the smaller the number is t	he
	more sensible it is	



[Limit] OUT PWM HI	The highest operation frequency that inputted to th	e
	driver	



[Limit] OUT PWM LOW	The lowest operation frequency that inputted to the
	driver



[Limit] LC RES HI	Limit the operational highest LC resonant frequency
	value



[Limit] LC RES LOW	Limit the operational lowest LC resonant frequency
	value



[Rx ON] LC RES FAR	Set the RX launched farthest resonant frequency of	
	coil distance	



1	.8

[Rx ON] LC RES NEAR	Set the RX launched nearest resonant frequency of
	coil distance



[BOOT ACC] LC RES	Set the launched detective coil resonant frequency
	accuracy value



[RX] VD / TXVIN FAR	When the coil distance is the farthest, the RX set
	voltage is the multiplying power of TX input voltage



[RX] VD / TXVIN NER	When the coil distance is the nearest, the RX set
	voltage is the multiplying power of TX input voltage



[FOD] RX LINK LEVEL	Under the RX online, the critical value of the metal
	foreign body differentiation



[FOD] LC SCAN BASIC	Under the LC scanning mode, differentiate the basic
	value of metal foreign body



[ADJ]21 ADC → COILv	The ADC reading number obtained in the IC port 21
	switches to the multiplying power of coil peak-to-
	peak value.



[Limit]L-C ACC GAP	Under the condition that having the starting-up lock
	L-C resonant frequency, the accepted differentiate
	space, if the number is small then it can be
	launched only when it is more accurate



[RX]COIL V MAX FAR	When the coil distance is the farthest, limit the
	largest voltage value on the power supply coil



[RX]COIL V MAX NEAR	When the coil distance is the nearest, limit the
	largest voltage value on the power supply coil



[RX]COIL V MIN FAR	When the	coil di	stance	is	the	farthe	st, li	.mit th	ie
	smallest	voltage	e value	on	the	power	supply	/ coil	



When the coil distance is the nearest, limits the minimum voltage value on the power supply coil



[RX]COIL Dev Basis	The offset of coil decided by the current during the
	process of transport power. The set value is judge
	the up limit of offset of coil, use the critical
	size of increased current in current system to be
	the up limit



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[02] LED1

Function switch of IC port Pin02, LED1 display



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[03] LED2

Function switch of IC port Pin03, LED2 display



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[04] LED3

Function switch of IC port Pin04, LED3 display



[05] BUZZER

Buzzer device function switch of IC port Pin05



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Function - FOD

Switch of metal foreign body protection function



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[Current Sensor]

Current detection IC type selection



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[PID]THRUST CONTROL

Thrust control system launching switch



[FOD] NFC SCAN

NFC detection function switch

SET MODEL 39 [BOOT] L-C LOCK RENEW> OFF BEFORE> ON

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[BOOT] L-C LOCK	Power on testing L-C resonant frequency locking
	function, it is the protection function that can be
	operated only if conform to the ACC set value



[ROM]SAVE NEW SET	Save the set page
Push <c> Execution←</c>	After pressing <c> it will start counting, execute</c>
	the action at 10
SR/3002	The current internal set version code





[ROM]LOAD DEFAULT 1	Read the 1 st team of default value parameter
#WP300*12	This set configuration as special for this model
	circuit board



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[ROM]LOAD DEFAULT 2	Read the 2 nd team of default value parameter
#WP300*24	This set configuration as special for this model
	circuit board



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[ROM]LOAD DEFAULT 3 Read the 3rd team of default value parameter



[ROM]LOAD DEFAULT 4	Read the 4 th team of default value parameter
#[CUSTON]	This set configuration is manual model, will close
	most of the advance functional

USB MODE - used for connecting the computer through USB



United States Patent

8,098,043	Induction type power supply device
8,217,621	Frequency modulation type wireless power supply and charger system
8,412,963	Power supplying and data transmitting method for induction type power supply system
8,417,359	Power transmission method of high-power wireless induction power supply system
8,461,802	Wireless driver system
8,519,667	Mobile wireless charger system
8,729,852	Method for identification of a light inductive charger
8,729,854	Slot-type induction charger
8,754,609	Wireless charging coil structure in electronic devices
8,772,979	Method for power self-regulation in a high-power induction type power source
8,810,072	High-power induction-type power supply system and its data transmission method
8,860,365	Inductive charging method for vehicles
8,941,267	High-power induction-type power supply system and its bi-phase decoding method
8,981,600	Low-loss data transmission method for high-power induction-type power supply system
9,045,050	Inductive charging method for vehicles
9,048,881	Method of time-synchronized data transmission in induction type power supply system
9,075,587	Induction type power supply system with synchronous rectification control for data transmission
9,413,197	Inductive power supply system and intruding metal detection method thereof
9,600,021	Operating clock synchronization adjusting method for induction type power supply system
9,600,022	Operating clock synchronization adjusting method for induction type power supply system
9,628,147	Method of automatically adjusting determination voltage and voltage adjusting device thereof
9,671,444	Current signal sensing method for supplying-end module of induction type power supply system
9,831,687	Supplying-end module for induction-type power supply system and signal analysis circuit therein
9,960,639	Supplying-end module of induction type power supply system and voltage measurement method thereof
10,002,707	Induction coil structure for wireless charging device
10,038,338	Signal modulation method and signal rectification and modulation device
10,056,944	Data determination method for supplying-end module of induction type power supply system and related supplying-end module
10,114,396	Induction type power supply system and intruding metal detection method thereof
10,153,665	Method for adjusting output power for induction type power supply system and related supplying-end module
10,289,142	Induction type power supply system and intruding metal detection method thereof
10,312,748	Signal analysis method and circuit
10,574,095	Decoding method for signal processing circuit and signal processing circuit using the same
10,587,153	Intruding metal detection method for induction type power supply system and related supplying-end module
10,594,168	Intruding metal detection method for induction type power supply system and related supplying-end module

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