

WiFi Module U9W35 Operation Description

CONFIDENTIAL

Funai Electric Co., Ltd.

'22/2/25

Modular Specifications

Supported Standards/ Frequency Band

WiFi 2.4GHz (IEEE802.11b/g/n)	2412 to 2462MHz
WiFi 5GHz (IEEE802.11a/n/ac)	5.18 to 5.32GHz, 5.5 to 5.825GHz

Supported/not supported Function

TPC Function not supported
USB 2.0
Wake on WLAN
DFS client mode

Operating Conditions

Operating Temperature: 0 to 60degC
Operating Voltage: DC3.3V +/-5%
Current Consumption: 1200mA max

Regulation

FCC 15.203,205,207,209,247(a)(2)/(b)(3)/(d)/(e),407(a)/(a)(5)/(b)/(b)(6)/(e)/(g)
ISED RS-247 Issue2, RSS-Gen Issue 5 (KDB 99669 D3 2.2)

Note: As for the other FCC rules, such as Part 15 subpart B, which apply to the host products of this module, host products are required to apply for the compliance testing. (KDB 99669 D3 2.10)

Modular Specifications

WiFi Tx/Rx Data Rate

802.11b :	Up to 11Mbps
802.11a/g :	Up to 54Mbps
802.11n :	Up to 300Mbps

WiFi Modulation

802.11b :	DSSS (DBPSK, DQPSK, CCK)
802.11a/g :	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
802.11n :	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)

Modular Specifications

WiFi 2.4G Tx Power

802.11b :	+18.0dBm+2dB
802.11g :	+17.5dBm+2dB
802.11n :	+16.0dBm+2dB

WiFi 5G Tx Power

802.11a :	+15.5dBm+2dB
802.11n :	+15.0dBm+2dB

Modular Specifications

<CH plan>

WiFi 2.4GHz

IEEE802.11b/g/n-HT20 : 1-11ch(2412-2462MHz)

IEEE802.11n-HT40 : 3-9ch(2422-2452MHz)

WiFi 5GHz

IEEE802.11a/n-HT20: 36-64ch(5180-5320MHz), 100-165ch(5500-5825MHz)

IEEE802.11n-HT40: 38-62ch(5190-5310MHz),102-159ch(5510-5795MHz)

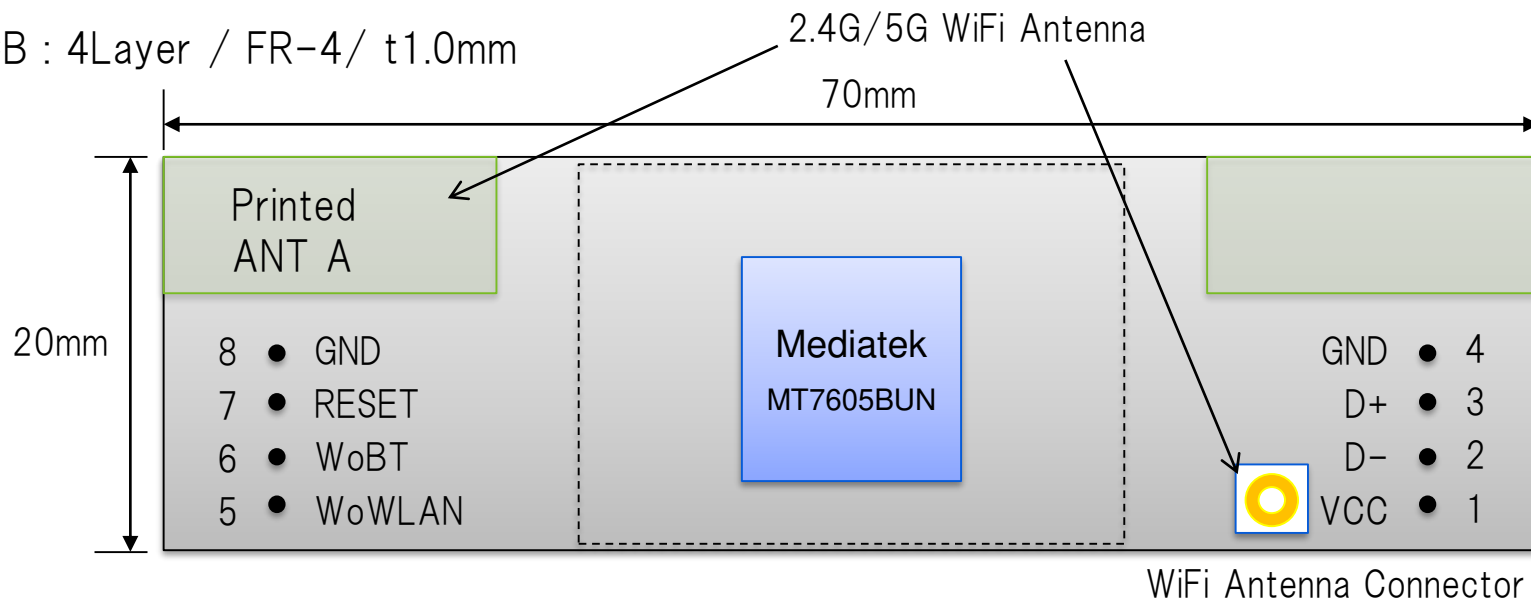
<Other>

Tolerance of Transmission Frequency: +/- 20ppm

Crystal Oscillator: 40MHz fundamental

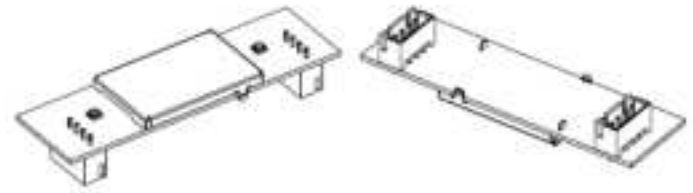
Module Size / Pin description

PCB : 4Layer / FR-4/ t1.0mm



Pin No.	Name	Description
1	VCC	Power Supply (3.3V)
2	D-	USB D-
3	D+	USB D+
4	GND	Ground
5	WoWLAN	Low Active Output to indicate receiving WLAN Magic Packet
6	N.C.	N.C.
7	RESET	Low Active Input to RESET module
8	Host Wake	Low Active Input from CPU

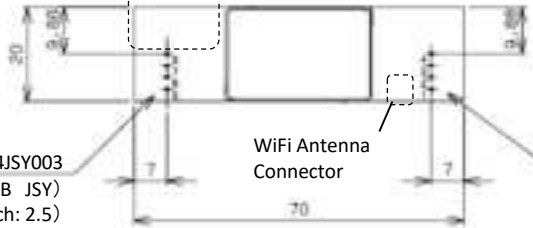
Module Outline



Embedded WiFi antenna



J32W04JSY003
(A2501WV-4P-9TB JSY)
(Pitch: 2.5)



WiFi Antenna Connector

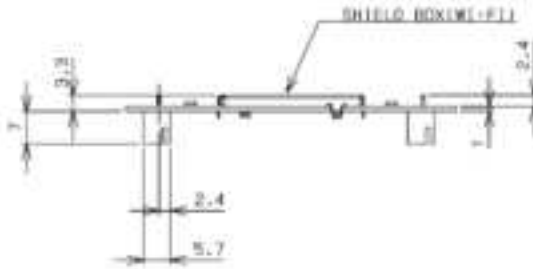
J32W04JSY003
(A2501WV-4P-9TB JSY)
(Pitch: 2.5)



MODEL :

Approved	Checked	Checked	Drawn

Pin No.	Name
1	3.3V
2	D-
3	D+
4	GND
5	WoWLAN
6	N.C.
7	RESET
8	Host Wake



Part name				WI-FI MODULE OUTLINE (外觀圖)			
Resolution		Tolerance		Material		Drawn	
△	△	△	△	△	△	△	△
△	△	△	△	△	△	△	△
△	△	△	△	△	△	△	△
△	△	△	△	△	△	△	△
Production Scale				Part No. & Drawing No. <Page No. >			
1:1				<1 of 1>			



船井電機株式会社
FPMI ELECTRIC CO., LTD.

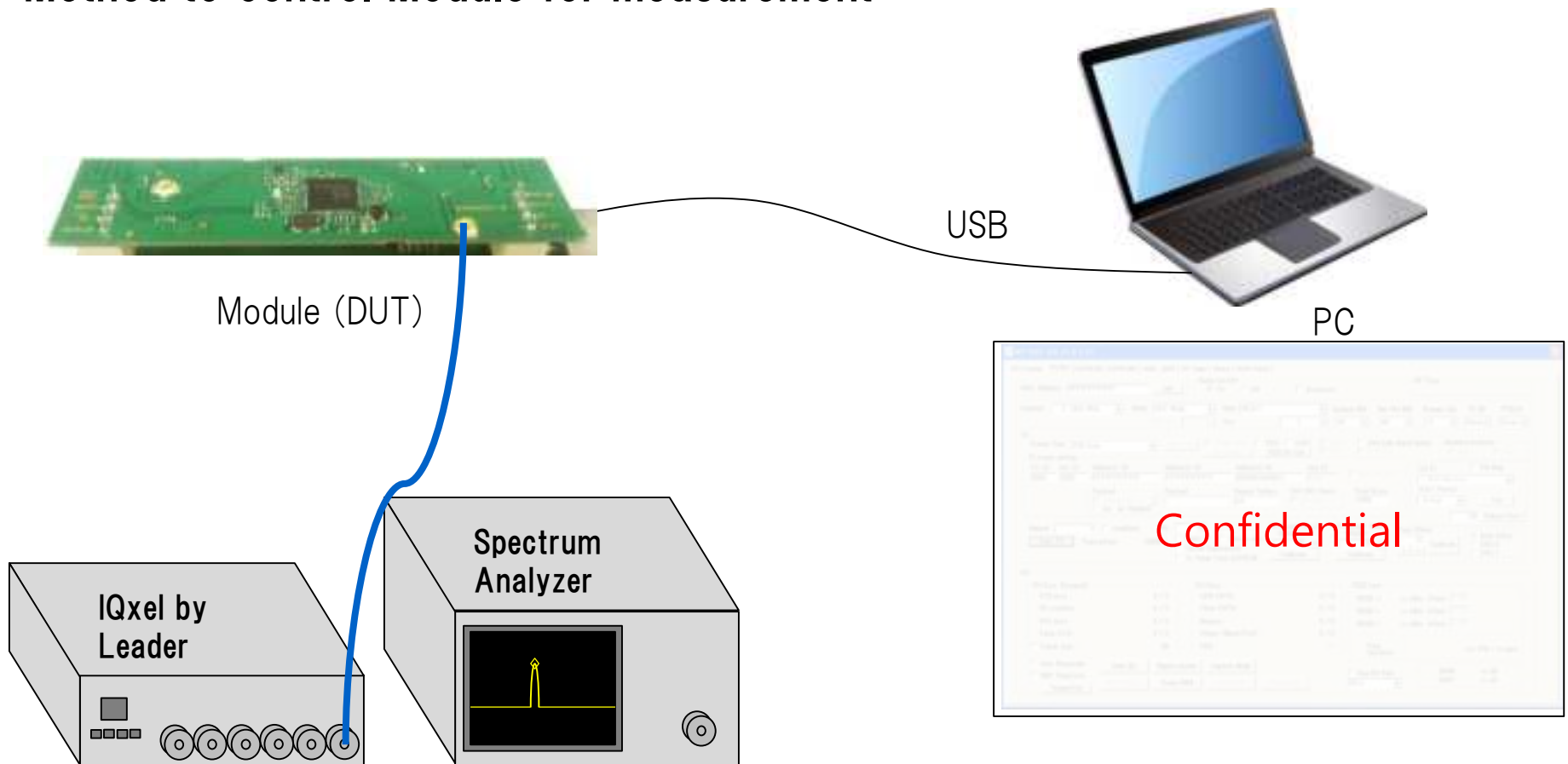


Scale

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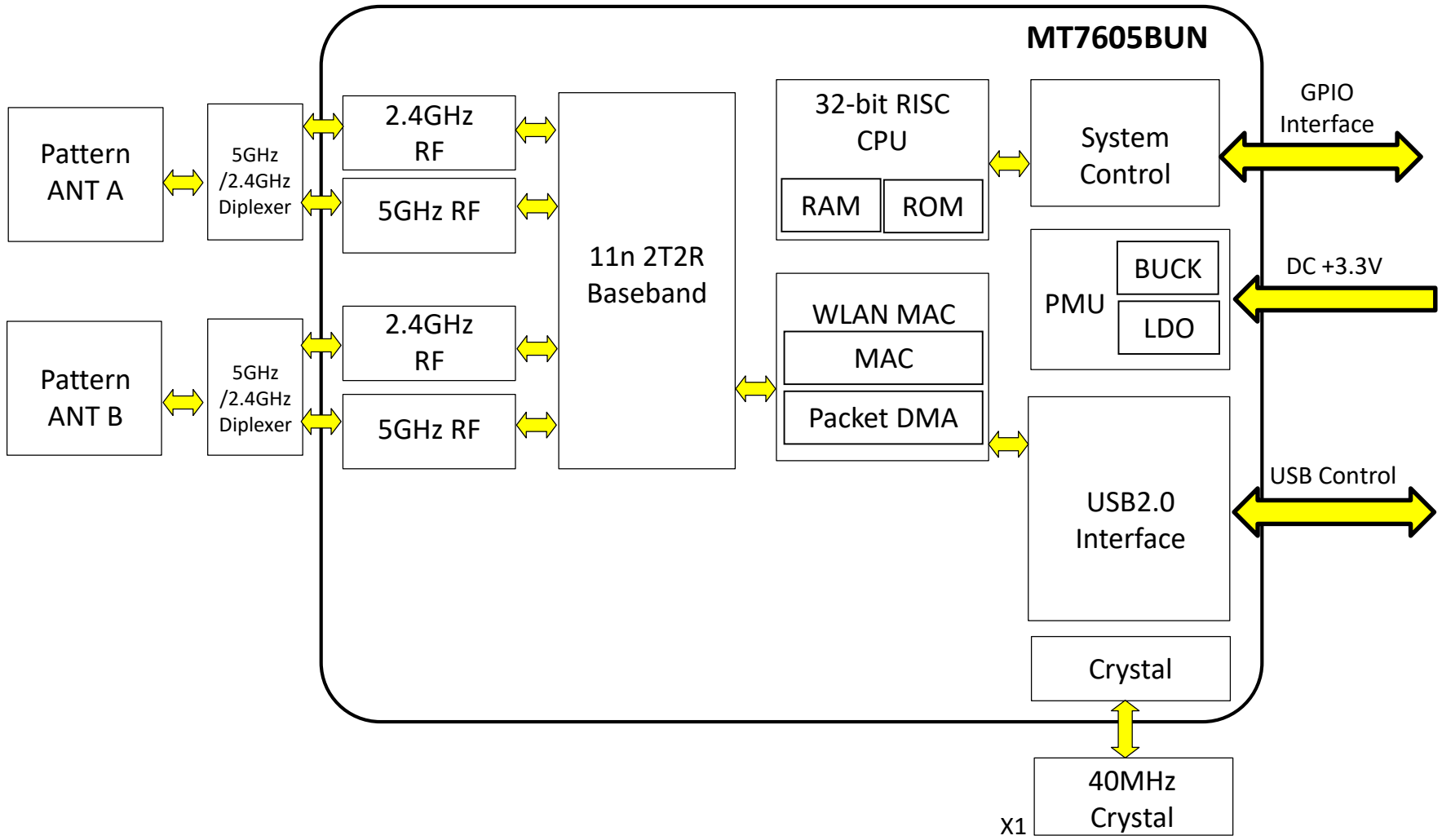
Method to control Module for measurement



control using QA Tool provided from Mediatek

The module can be entered to the test mode by using Mediatek QA tool, and can be tested in different operational conditions.
(KDB 996369 D03 2.9)

WiFi Module U9W35 Block Diagram



ANT Specifications

2.4G/5G WiFi Antenna

Print ANT A
 2.412~2.462, 5.180~5.320,
 5.500~5.825GHz



Connector for External WiFi
 Antenna 2.402~2.462GHz
 5.180~5.320, 5.500~5.825GHz

- WiFi Antenna A : $\lambda/4$ monopole antenna
- WiFi Antenna B : External Metal Antenna

Antenna Specifications

The antenna used for this product are monopole antenna that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is as following.

(KDB996369 D03 2.7)

WiFi 2.4GHz Antenna

Antenna Type :	PCB Antennas (Antenna A/B)
Antenna Gain:	-1.04dBi max (Antenna A)
	-2.80dBi max (Antenna B)

WiFi U-NII-1 Band (5.15-5.25GHz) Antenna

Antenna Type :	PCB Antennas (Antenna A/B)
Antenna Gain:	1.42dBi max (Antenna A)
	-4.67dBi max (Antenna B)

WiFi U-NII-2 Band (5.25-5.32GHz) Antenna

Antenna Type :	PCB Antennas (Antenna A/B)
Antenna Gain:	-4.34dBi max (Antenna A)
	-0.16dBi max (Antenna B)

WiFi U-NII-3 Band (5.5-5.7GHz) Antenna

Antenna Type : PCB Antennas (Antenna A/B)
Antenna Gain: -4.03dBi max (Antenna A)
0.09dBi max (Antenna B)

WiFi U-NII-3 Band (5.725-5.85GHz) Antenna

Antenna Type : PCB Antennas (Antenna A/B)
Antenna Gain: 0.98dBi max (Antenna A)
-4.36dBi max (Antenna B)

The module has been certified for integration into products only by the host integrators under the following condition.

- This module must be located such that a minimum separation distance of at least 20cm is maintained between the radiator (antenna of this module) and all persons at all times.

(KDB996369 D03 2.6)

End Product Labeling

The module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following.

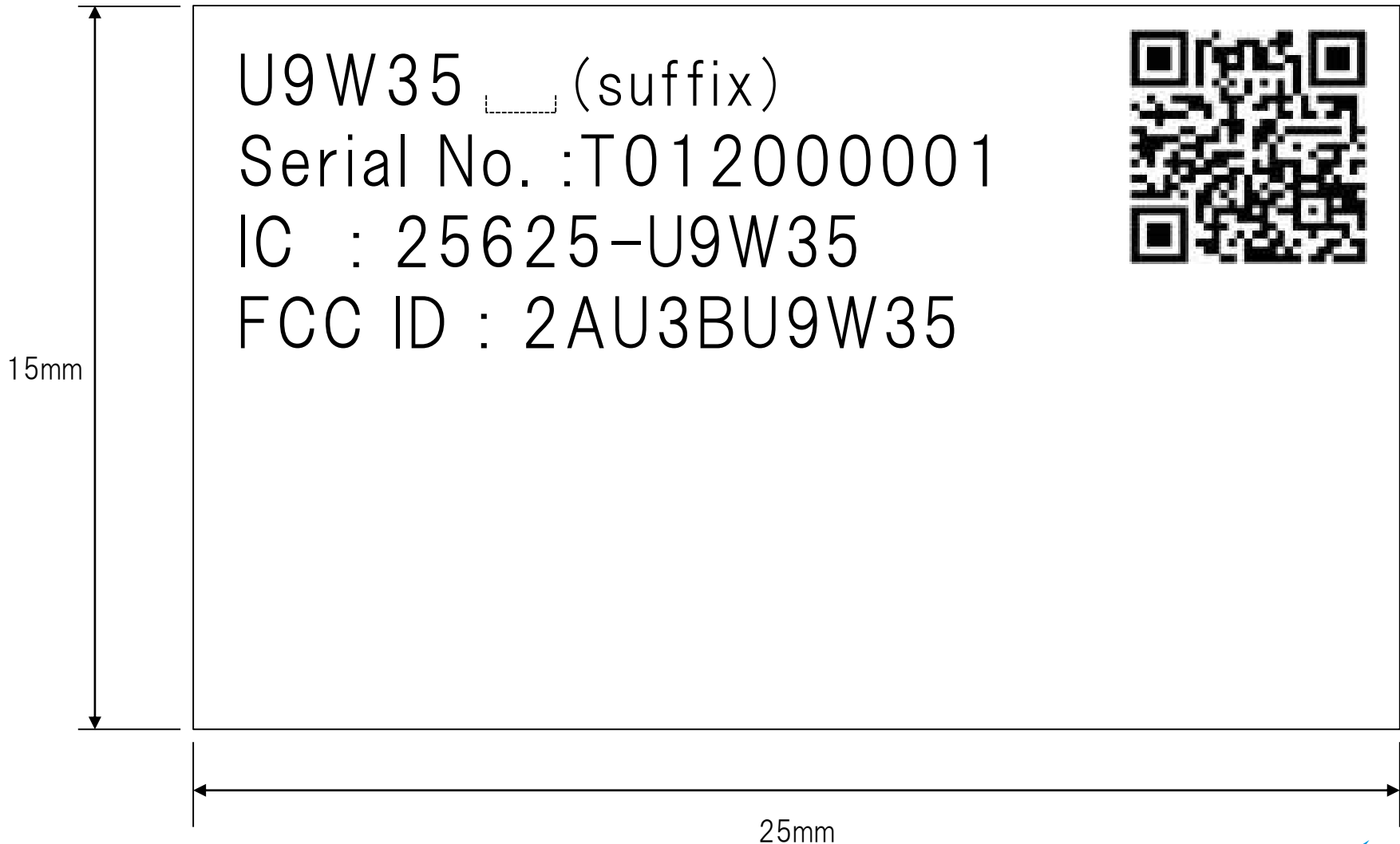
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Contains IC: 25625-U9W35”

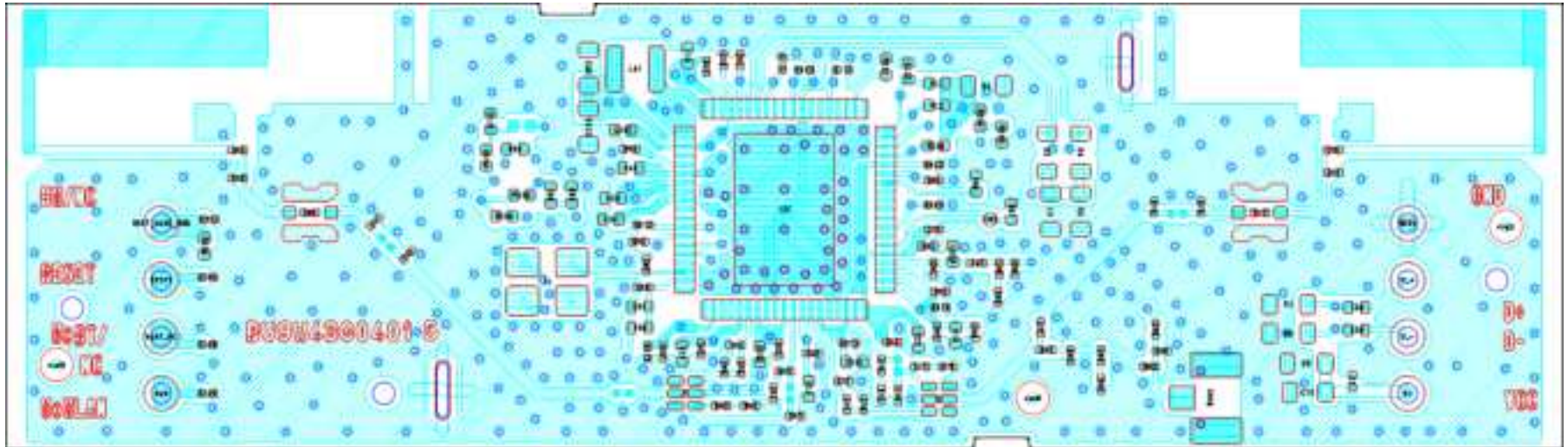
(KDB996369 D03 2.8)

Module Label

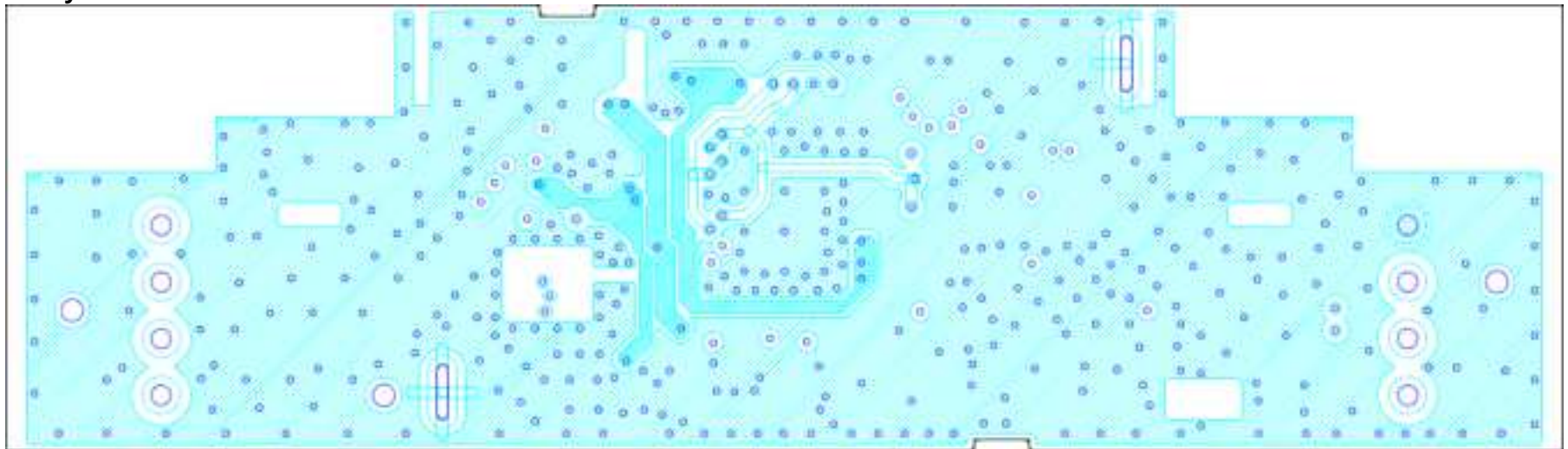
The module label should be located at the position described in P.7., and should not be peeled off easily.



PCB Layout (top view)

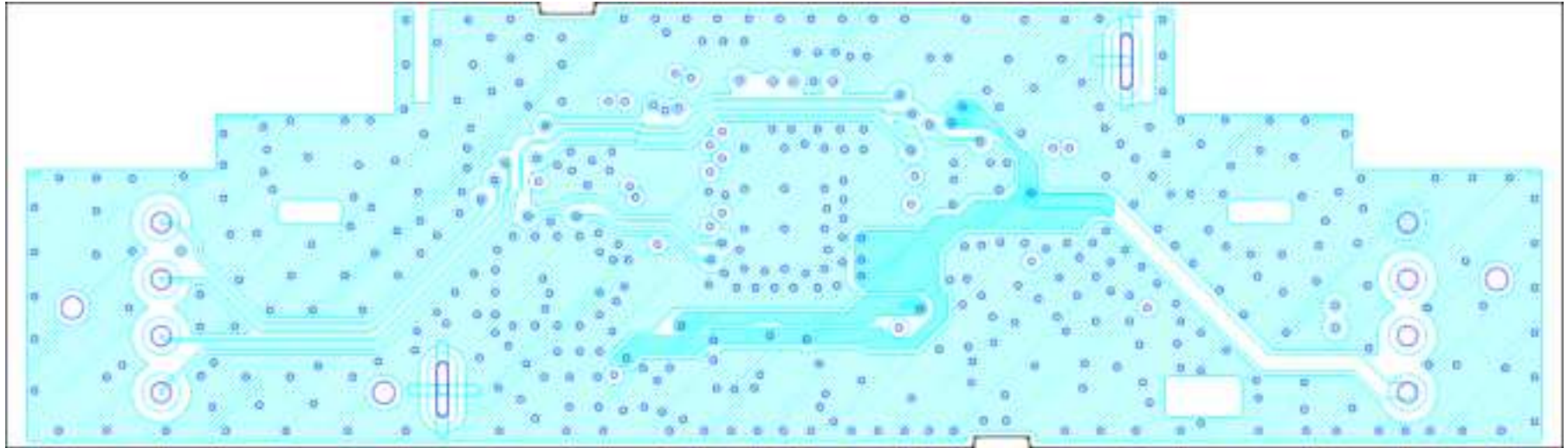


Layer 1

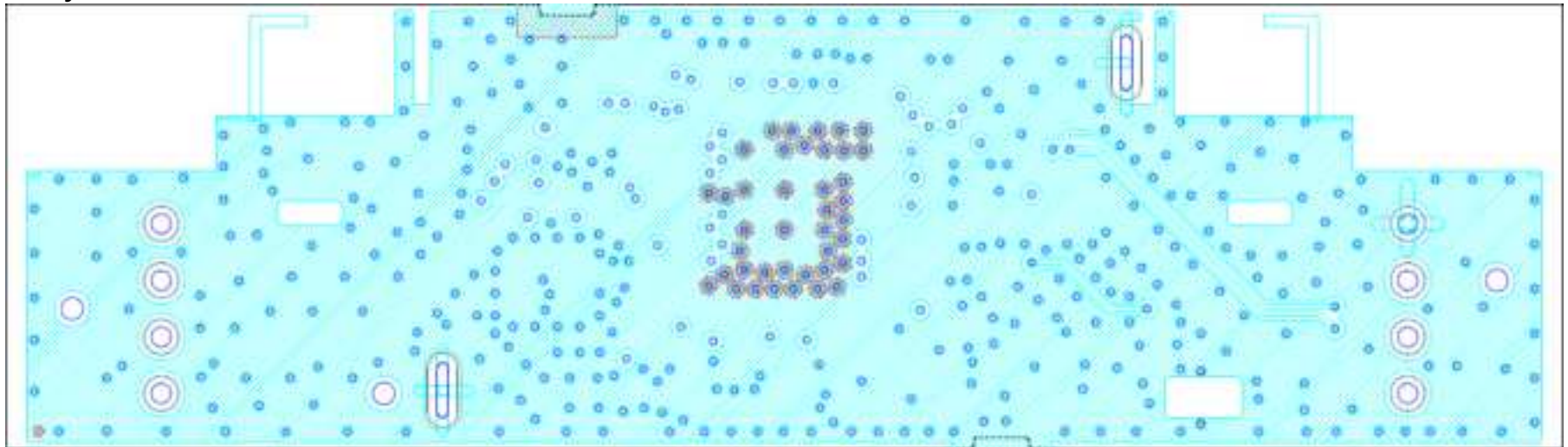


Layer 2

PCB Layout



Layer 3



Layer 4