Radio Test Report

Report No.:	RJBARR-WTW-P20110181D
Test Model:	MT7921K
Received Date:	Apr. 24, 2021
Issued Date:	May 07, 2021
Applicant:	MediaTek Inc.
Address:	No. 1, Duxing 1st Rd., East District, Hsinchu City 300 Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

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Release Control Record

Issue No.	Description	Date Issued
RJBARR-WTW-P20110181D	Original release	May 07, 2021

1 Certificate of Conformity

Product:	2TX 11ax (WiFi6E) + BT/BLE Combo Card
Brand:	MediaTek
Test Model:	MT7921K
Sample Status:	Engineering sample
Applicant:	MediaTek Inc.
Standards:	ARIB STD-T66 (V3.7), MIC notice 88 Appendix 43 Certification Ordinance Article 2-1-19 RCR STD-33 (V5.4), MIC notice 88 Appendix 44 Certification Ordinance Article 2-1-19-2 Certification Ordinance Article 2-1-19-3 Measurement was conducted by the temporary test method which TELEC submitted to the Minister for Internal Affairs and Communications based on the Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment in Annex 1, the Ministry of Internal Affairs and Communication notification in Article 88, Paragraph 2

This report is issued as a supplementary report. This report shall be used combined together with its original report.

Prepared by : Phoenix Huang , **Date:** May 07, 2021

Phoenix Huang / Specialist

Approved by : , **Date:** May 07, 2021

Clark Lin / Technical Manager

2 General Information

2.1 General Description of EUT

Product	2TX 11ax (WiFi6E) + BT/BLE Combo Card
Brand	MediaTek
Test Model	MT7921K
Status of EUT	Engineering sample
Nominal Voltage	3.3Vdc from host equipment
Modulation Type	**For WLAN:** CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode and VHT20/40 in 2.4GHz mode 1024QAM for OFDMA in 11ax HE mode **For BT-EDR:** GFSK, π/4-DQPSK, 8DPSK **For BT-LE:** GFSK
Modulation Technology	**For WLAN:** DSSS, OFDM, OFDMA **For BT-EDR:** FHSS **For BT-LE:** DTS
Transfer Rate	**For WLAN:** 802.11b: up to 11 Mbps 802.11a/g: up to 54 Mbps 802.11n: up to 300 Mbps 802.11ac: up to 866.7 Mbps 802.11ax: up to 1201.0 Mbps **For BT-EDR:** Up to 3 Mbps **For BT-LE:** Up to 2 Mbps
Operating Frequency	**For WLAN** **2.4GHz:** 802.11b: 2412 ~ 2484 MHz 802.11g/n (HT20), VHT20, 802.11ax (HE20): 2412 ~ 2472 MHz 802.11n (HT40), VHT40, 802.11ax (HE40): 2422 ~ 2462 MHz **5GHz:** 802.11a/n/ac/ax (W52+W53): 5180 ~ 5320 MHz 802.11a/n/ac/ax (W56): 5500 ~ 5720 MHz **For BT:** 2402 ~ 2480 MHz
Number of Channel	**For WLAN** **2.4GHz:** 802.11b: 14 802.11g/n (HT20), VHT20, 802.11ax (HE20): 13 802.11n (HT40), VHT40, 802.11ax (HE40): 9 **5GHz: (W52+W53)** 802.11a/n (HT20)/ac (VHT20), 802.11ax (HE20): 8 802.11n (HT40)/ac (VHT40), 802.11ax (HE40): 4 802.11ac (VHT80), 802.11ax (HE80): 2 **5GHz: (W56)** 802.11a/n (HT20)/ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40)/ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 **For BT-EDR:** 79 **For BT-LE:** 40

Rated RF Output Power Density	Refer to note
Conducted RF Output Power Density	Refer to note
Radiated RF Output Power Density	Refer to note
Antenna Type	Refer to note
Antenna Connector	Refer to note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. This report is issued as a supplementary report to BV CPS report as below test report:

Function	**Report No.**
WLAN_2.4GHz	RJBARR-WTW-P20110181A
WLAN_5GHz	RJBARR-WTW-P20110181A-1
BT-EDR	RJ200814E08-2
BT-LE	RJ200814E08-3

2. The difference compared with original report is adding antennas and according to EUT's specification by the customer judgement, there is no additional tested.

Original

Ant. Set	RF Chain No.	Brand	Model	Ant. Net Gain (dBi)	Freq. Range (GHz)	Ant. Type	Connector Type	Cable Length (mm)	Cable Loss (dB)	Excluding Cable Loss Ant. Gain (dBi)
1	Chain0	Cortec	AN2450-4902BRS	2.42 3.87	2.4~2.4835 5.15~5.85	Dipole	R-SMA	150	2.4~2.4835GHz : 0.5 5.15~5.85GHz : 0.8	2.92 4.67
	Chain1	Cortec	AN2450-4902BRS	2.42 3.87	2.4~2.4835 5.15~5.85	Dipole	R-SMA	150	2.4~2.4835GHz : 0.5 5.15~5.85GHz : 0.8	2.92 4.67
2	Chain0	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200	included cable loss	-
	Chain1	PSA	RFMTA340718EMLB302	3.18 4.92	2.4~2.4835 5.15~5.85	PIFA	i-pex(MHF)	200	included cable loss	-

Newly

Ant. Set	Brand	Main/Aux	Model	Antenna Type	Peak gain with cable loss	Cable Loss	Connector Type	Cable Length (mm)
3	INPAQ	Main	DAM-I3-H1-M2-800-10-66	Dipole	1.03dBi @ 2.4GHz 2.07dBi @ 5GHz	2.17dB @ 2.4GHz 3.70dB @ 5GHz	SMA RP PLUG	800
	INPAQ	Aux	DAM-I3-H1-M2-800-10-66	Dipole	2.27dBi @ 2.4GHz 2.01dBi @ 5GHz	2.17dB @ 2.4GHz 3.70dB @ 5GHz	SMA RP PLUG	800
4	Luxshare-ICT	Main	LA9RF059-CS-H	Dipole	0.3dBi @ 2.4GHz 0.2dBi @ 5GHz	1.84dB @ 2.4GHz 2.92dB @ 5GHz	SMA RP PLUG	925
	Luxshare-ICT	Aux	LA9RF059-CS-H	Dipole	-1.1dBi @ 2.4GHz -1.1dBi @ 5GHz	1.75dB @ 2.4GHz 2.78dB @ 5GHz	SMA RP PLUG	925

Ant. Set	Brand	Main/Aux	Model	Antenna Type	Peak gain with cable loss	Cable Loss	Connector Type	Cable Length (mm)
5	High-Tek Electronics Co., Ltd	Main	DC33002KO00 (0ACCN020029N)	PIFA	2.36dBi @ 2.4GHz 1.87dBi @ 5GHz	2.39dB @ 2.4GHz 4.08dB @ 5GHz	Seeptech	735
	High-Tek Electronics Co., Ltd	Aux	DC33002KO10 (0ACCN020030N)	PIFA	3.09dBi @ 2.4GHz 3.09dBi @ 5GHz	1.16dB @ 2.4GHz 1.97dB @ 5GHz	Seeptech	355
6	SOUTH STAR TECHNOLOGY., LTD	Main	DC33002KL00 (N12-7566-R0A)	PIFA	3.03dBi @ 2.4GHz 3.63dBi @ 5GHz	2.27dB @ 2.4GHz 3.52dB @ 5GHz	IPEX	735
	SOUTH STAR TECHNOLOGY., LTD	Aux	DC33002KL10 (N12-7567-R0A)	PIFA	2.74dBi @ 2.4GHz 3.19dBi @ 5GHz	1.11dB @ 2.4GHz 1.81dB @ 5GHz	IPEX	360
7	SOUTH STAR TECHNOLOGY., LTD	Main	DC33002KP00 (0ACCN020031N)	PIFA	1.91dBi @ 2.4GHz 1.75dBi @ 5GHz	2.33dB @ 2.4GHz 3.97dB @ 5GHz	Seeptech	715
	SOUTH STAR TECHNOLOGY., LTD	Aux	DC33002KP10 (0ACCN020032N)	PIFA	2.28dBi @ 2.4GHz 3.27dBi @ 5GHz	0.45dB @ 2.4GHz 0.77dB @ 5GHz	Seeptech	139
8	SOUTH STAR TECHNOLOGY., LTD	Main	DC33002KM00 (N12-7568-R0A)	PIFA	2.99dBi @ 2.4GHz 3.29dBi @ 5GHz	0.53dB @ 2.4GHz 0.87dB @ 5GHz	IPEX	173
	SOUTH STAR TECHNOLOGY., LTD	Aux	DC33002KM10 (N12-7569-R0A)	PIFA	2.31dBi @ 2.4GHz 3.31dBi @ 5GHz	0.97dB @ 2.4GHz 1.58dB @ 5GHz	IPEX	735
9	INPAQ	Main	DAM-J8-K1-DB-800-10-25	PIFA	2.32dBi @ 2.4GHz 2.82dBi @ 5GHz	1.70dB @ 2.4GHz 2.81dB @ 5GHz	SMA RP PLUG	800
	INPAQ	AUX	DAM-J8-K1-DB-800-10-25	PIFA	2.38dBi @ 2.4GHz 2.96dBi @ 5GHz	1.70dB @ 2.4GHz 2.81dB @ 5GHz	SMA RP PLUG	800
10	INPAQ	Main	DAM-J9-K1-DB-800-10-70	PIFA	2.25dBi @ 2.4GHz 2.79dBi @ 5GHz	1.70dB @ 2.4GHz 2.81dB @ 5GHz	SMA RP PLUG	800
	INPAQ	AUX	DAM-J9-K1-DB-800-10-70	PIFA	2.30dBi @ 2.4GHz 2.99dBi @ 5GHz	1.70dB @ 2.4GHz 2.81dB @ 5GHz	SMA RP PLUG	800
11	High-Tek Electronics Co., Ltd	Main	DC33002KQ00 (0ACCN020033N)	PIFA	2.81dBi @ 2.4GHz 3.05dBi @ 5GHz	1.29dB @ 2.4GHz 1.94dB @ 5GHz	SMA RP PLUG	345
	High-Tek Electronics Co., Ltd	AUX	DC33002KQ10 (0ACCN020034N)	PIFA	3.09dBi @ 2.4GHz 1.38dBi @ 5GHz	2.73dB @ 2.4GHz 3.99dB @ 5GHz	SMA RP PLUG	730
12	SOUTH STAR TECHNOLOGY., LTD	Main	DC33002KN00 (N12-7570-R0A)	PIFA	2.80dBi @ 2.4GHz 1.29dBi @ 5GHz	1.07dB @ 2.4GHz, 1.63dB @ 5GHz	IPEX	345
	SOUTH STAR TECHNOLOGY., LTD	AUX	DC33002KN10 (N12-7571-R0A)	PIFA	2.94dBi @ 2.4GHz 0.81dBi @ 5GHz	2.26dB @ 2.4GHz 3.45dB @ 5GHz	IPEX	730
13	Pulse	Main	DC33002KJ00	PIFA	2.93dBi @ 2.4GHz 2.97dBi @ 5GHz	1.2dB @ 2.4GHz 1.85dB @ 5GHz	Seeptech	400
	Pulse	AUX	DC33002KJ10	PIFA	1.28dBi @ 2.4GHz 1.88dBi @ 5GHz	0.96dB @ 2.4GHz 1.58dB @ 5GHz	Seeptech	340

Ant. Set	Brand	Main/Aux	Model	Antenna Type	Peak gain with cable loss	Cable Loss	Connector Type	Cable Length (mm)
14	High-Tek Electronics Co., Ltd	Main	DC33002KI00	PIFA	2.93dBi @ 2.4GHz 2.80dBi @ 5GHz	1.50dB @ 2.4GHz 2.32dB @ 5GHz	IPEX	374
	High-Tek Electronics Co., Ltd	AUX	DC33002KI10	PIFA	1.24dBi @ 2.4GHz 1.88dBi @ 5GHz	1.27dB @ 2.4GHz 1.86dB @ 5GHz	IPEX	300
15	High-Tek Electronics Co., Ltd	Main	DC33002KI00	PIFA	2.61dBi @ 2.4GHz 2.98dBi @ 5GHz	1.50dB @ 2.4GHz 2.19dB @ 5GHz	Seeptech	400
	High-Tek Electronics Co., Ltd	AUX	DC33002KI10	PIFA	2.93dBi @ 2.4GHz 3.05dBi @ 5GHz	1.27dB @ 2.4GHz 1.97dB @ 5GHz	Seeptech	340
16	Pulse	Main	DC33002KJ00	PIFA	0.38dBi @ 2.4GHz 2.91dBi @ 5GHz	1.2dB @ 2.4GHz 1.85dB @ 5GHz	IPEX	374
	Pulse	AUX	DC33002KJ10	PIFA	2.88dBi @ 2.4GHz 2.64dBi @ 5GHz	0.96dB @ 2.4GHz 1.57dB @ 5GHz	IPEX	300

3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
4. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

Appendix - Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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