

Spot Check Verification

1. Customer

- Name (FCC) : POINTMOBILE CO., LTD. / Name (IC) : POINTMOBILE CO.,LTD
- Address (FCC) : B-9F, Kabul Great Valley 32 Digital-ro 9-gil, Geumcheon-gu Seoul South Korea 153-709
Address (IC) : B-9F Kabul Great Valley, 32, Digital-ro 9-gil, Geumcheon-gu Seoul Korea (Republic Of)

2. Product Name / Model Name : Mobile Computer / PM85W

FCC ID : V2X-PM85W / IC : 10664A-PM85W

3. Date of Test : 2019.02.26 ~ 2019.03.06

Affirmation	Tested by	Reviewed by
	Name : SunGeun Lee (Signature) 	Name : Geunki Son (Signature) 

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1. Introduction

1.1 Reference EUT Description

Reference FCC ID: V2X-PM85G / Reference IC: 10664A-PM85G

Equipment Class	FCC Part/ RSS Std.	Technology	Frequency range(MHz)	Note
DSS	15C/ RSS-247	Bluetooth	2402 ~ 2480	-
DTS	15C/ RSS-247	Bluetooth LE	2402 ~ 2480	-
DTS	15C/ RSS-247	WLAN	2412 ~ 2462	-
NII	15E/ RSS-247	WLAN	5180 ~ 5240 5260 ~ 5320 5500 ~ 5700 5745 ~ 5825	-
PCE	22H/ RSS-132	GSM 850	824.2 ~ 848.8	-
PCE	22H/ RSS-132	WCDMA 850	826.4 ~ 846.6	-
PCE	27/ RSS-139	WCDMA 1700	1712.4 ~ 1752.6	-
PCE	24E/ RSS-133	GSM 1900	1850.2 ~ 1909.8	-
PCE	24E/ RSS-133	WCDMA 1900	1852.4 ~ 1907.6	-
PCE	27/ RSS-130	LTE Band 12(17)	701.5 ~ 713.5	-
PCE	27/ RSS-130	LTE Band 12	699.7 ~ 715.3	-
PCE	27/ RSS-130	LTE Band 13	779.5 ~ 784.5	-
PCE	90/ RSS-140	LTE Band 14	790.5 ~ 795.5	-
PCE	22H/ RSS-132	LTE Band 5	824.7 ~ 848.3	-
PCE	27/ RSS-139	LTE Band 4	1710.7 ~ 1754.3	-
PCE	24E/ RSS-133	LTE Band 2	1850.7 ~ 1909.3	-
PCE	27/ RSS-199	LTE Band 41	2498.5 ~ 2687.5	-
PCE	27/ RSS-199	LTE Band 7	2502.5 ~ 2567.5	-
DXX	15C/ RSS-210	NFC	13.56	-

The applicant takes full responsibility that the test data as referenced in section 4 represents compliance for FCC ID: V2X-PM85W / IC: 10664A-PM85W.

2. Explain the Differences

FCC ID: V2X-PM85W / IC: 10664A-PM85W is same the internal printed circuit board with FCC ID: V2X-PM85G / IC: 10664A-PM85G. The separate FCC ID Differ only in the depopulation of components for the purposes of removing WWAN(GSM/WCDMA/LTE) transmitter.

The removing for frequency bands are as below.

Equipment Class	FCC Part/ RSS Std.	Technology	Frequency range(MHz)	Note
DSS	15C/ RSS-247	Bluetooth	2402 ~ 2480	-
DTS	15C/ RSS-247	Bluetooth LE	2402 ~ 2480	-
DTS	15C/ RSS-247	WLAN	2412 ~ 2462	-
NII	15E/ RSS-247	WLAN	5180 ~ 5240 5260 ~ 5320 5500 ~ 5700 5745 ~ 5825	-
PCE	22H/ RSS-132	GSM 850	824.2 ~ 848.8	Remove
PCE	22H/ RSS-132	WCDMA 850	826.4 ~ 846.6	Remove
PCE	27/ RSS-139	WCDMA 1700	1712.4 ~ 1752.6	Remove
PCE	24E/ RSS-133	GSM 1900	1850.2 ~ 1909.8	Remove
PCE	24E/ RSS-133	WCDMA 1900	1852.4 ~ 1907.6	Remove
PCE	27/ RSS-130	LTE Band 12(17)	701.5 ~ 713.5	Remove
PCE	27/ RSS-130	LTE Band 12	699.7 ~ 715.3	Remove
PCE	27/ RSS-130	LTE Band 13	779.5 ~ 784.5	Remove
PCE	90/ RSS-140	LTE Band 14	790.5 ~ 795.5	Remove
PCE	22H/ RSS-132	LTE Band 5	824.7 ~ 848.3	Remove
PCE	27/ RSS-139	LTE Band 4	1710.7 ~ 1754.3	Remove
PCE	24E/ RSS-133	LTE Band 2	1850.7 ~ 1909.3	Remove
PCE	27/ RSS-199	LTE Band 41	2498.5 ~ 2687.5	Remove
PCE	27/ RSS-199	LTE Band 7	2502.5 ~ 2567.5	Remove
DXX	15C/ RSS-210	NFC	13.56	-

3. Spot Check Verification Data

3.1 Test results

Equipment Class	FCC Part/ RSS Std.	Technology	Mode	Tx Freq. (MHz)	Test item	Detector Mode	Reference FCC ID: V2X-PM85G IC: 10664A-PM85G		FCC ID: V2X-PM85W IC: 10664A-PM85W		Limit (dBuV/m)	Deviation (dB)
							Frequency (MHz)	Result (dBuV/m)	Frequency (MHz)	Result (dBuV/m)		
DSS	15C/ RSS-247	Bluetooth	2Mbps	2480	Radiated Band edge	Peak	2485.32	57.81	2485.70	57.04	74.00	-0.77
						Average	2483.54	20.88	2483.89	20.73	54.00	-0.15
			3Mbps	2402	Radiated Spurious emission	Peak	4803.99	51.93	4803.85	51.84	74.00	-0.09
						Average	4804.17	15.56	4803.95	15.56	54.00	0.00
DTS	15C/ RSS-247	BLE	1Mbps	2480	Radiated Band edge	Peak	2484.74	56.45	2485.99	56.15	74.00	-0.30
						Average	2483.63	46.85	2485.69	46.73	54.00	-0.12
			1Mbps	2440	Radiated Spurious emission	Peak	4880.37	51.57	4879.70	51.64	74.00	0.07
						Average	4880.17	43.24	4879.93	43.11	54.00	-0.13
		WLAN	802.11g	2462	Radiated Band edge	Peak	2485.20	62.39	2483.66	59.87	74.00	-2.52
						Average	2483.52	50.95	2484.20	49.94	54.00	-1.01
			802.11ac (VHT20)	2437	Radiated Spurious emission	Peak	4873.62	52.41	4873.51	52.23	74.00	-0.18
						Average	4873.74	45.48	4873.29	45.26	54.00	-0.22
NII	15E/ RSS-247	WLAN	802.11n (HT40)	5190	Radiated Band edge	Peak	5142.28	56.45	5143.08	57.57	74.00	1.12
						Average	5142.00	52.42	5141.96	49.62	54.00	-2.80
			802.11n (HT20)	5200	Radiated Spurious emission	Peak	10392.04	52.60	10394.97	51.84	68.20	-0.76
						Average	-	-	-	-	-	-
			802.11n (HT40)	5310	Radiated Band edge	Peak	5358.12	57.00	5358.44	56.29	74.00	-0.71
						Average	5358.12	52.37	5357.96	51.16	54.00	-1.21
			802.11n (HT40)	5310	Radiated Spurious emission	Peak	10620.19	51.59	10620.82	51.15	74.00	-0.44
						Average	10620.13	43.02	10619.93	42.65	54.00	-0.37
			802.11ac (VHT80)	5530	Radiated Band edge	Peak	5459.65	57.68	5458.90	57.28	74.00	-0.40
						Average	5459.82	49.33	5458.46	48.92	54.00	-0.41
			802.11n (HT40)	5670	Radiated Spurious emission	Peak	5463.40	60.01	5462.96	57.26	68.20	-2.75
						Average	11339.66	53.99	10340.27	53.25	74.00	-0.74
			802.11ac (VTH80)	5775	Radiated Band edge	Average	11340.30	45.61	10339.98	44.47	54.00	-1.14
						Peak	5705.40	59.54	5707.58	60.01	68.20	0.47
						Peak	5718.73	60.71	5724.63	62.53	78.20	1.82
						Peak	5850.88	56.91	5856.67	58.32	78.20	1.41
			802.11a	5825	Radiated Spurious emission	Peak	5864.49	55.70	5865.72	57.20	68.20	1.50
						Peak	11647.97	60.11	11651.89	57.71	74.00	-2.40
						Average	11648.59	49.15	11650.33	47.23	54.00	-1.92
DXX	15C/ RSS-210	NFC	-	13.56	Field Strength @3m	Peak	13.561	68.60	13.560	69.82	124.00	1.22

Note1: The spot check were performed based on worst-case results reported in the original FCC/IC report.

The spot check test results are within 3dB and two products shows a good correlation. It also complies with the FCC/IC limit.

3.2 Test Equipment List

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	18/12/19	19/12/19	MY48011700
Spectrum Analyzer	Agilent Technologies	N9030A	18/07/09	19/07/09	MY53310140
EMI Test Receiver	Rohde Schwarz	ESR7	19/01/30	20/01/30	101061
Multimeter	FLUKE	17B	18/12/18	19/12/18	26030065WS
Signal Generator	Rohde Schwarz	SMBV100A	18/12/19	19/12/19	255571
Signal Generator	ANRITSU	MG3695C	18/12/10	19/12/10	173501
Thermohygrometer	BODYCOM	BJ5478	18/07/09	19/07/09	N/A
Loop Antenna	Schwarzbeck	FMZB1513	18/01/30	20/01/30	1513-128
BILOG ANTENNA	Schwarzbeck	VULB 9160	18/07/13	20/07/13	3359
Horn Antenna	ETS-Lindgren	3115	19/01/11	21/01/11	9202-3820
Horn Antenna	Schwarzbeck	BBHA 9120C	17/12/04	19/12/04	9120C-561
Horn Antenna	A.H.Systems Inc.	SAS-574	17/07/31	19/07/31	155
PreAmplifier	tsj	MLA-0118-J01-45	18/12/19	19/12/19	17138
PreAmplifier	tsj	MLA-1840-J02-45	18/07/06	19/07/06	16966-10728
PreAmplifier	tsj	MLA-10K01-B01-27	18/10/31	19/10/31	2005354
Attenuator	SMAJK	SMAJK-2-3	18/07/02	19/07/02	3
Attenuator	SRTechnology	F01-B0606-01	18/07/02	19/07/02	13092403
Attenuator	Hefei Shunze	SS5T2.92-10-40	18/07/03	19/07/03	16012202
Attenuator	SMAJK	SMAJK-2-3	18/07/04	19/07/04	4
High Pass Filter	Wainwright Instruments	WHNX8.0/26.5-6SS	18/07/03	19/07/03	3
High Pass Filter	Wainwright Instruments	WHKX12-935-1000-15000-40SS	18/07/02	19/07/02	8
High Pass Filter	Wainwright Instruments	WHKX10-2838-3300-18000-60SS	18/07/02	19/07/02	1
Cable	HUBER+SUHNER	SUCOFLEX 106	18/06/25	19/06/25	G-01
Cable	HUBER+SUHNER	SUCOFLEX 104	18/06/25	19/06/25	G-02
Cable	HUBER+SUHNER	SUCOFLEX 104	18/06/25	19/06/25	G-03
Cable	Junkosha	MWX241	18/06/25	19/06/25	G-04
Cable	Junkosha	MWX241	18/06/25	19/06/25	G-07
Cable	DT&C	Cable	18/07/06	19/07/06	G-13
Cable	DT&C	Cable	18/07/06	19/07/06	G-14
Cable	HUBER+SUHNER	SUCOFLEX 104	18/07/06	19/07/06	G-15

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.

Note2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

4. Reference Section

Reference FCC ID: V2X-PM85G / Reference IC: 10664A-PM85G

Equipment Class	FCC Part/ RSS Std.	Technology	Frequency range(MHz)	Exhibit type	Report title	Reference Sections
DSS	15C/ RSS-247	Bluetooth	2402 ~ 2480	Original Grant	DSS	All
DTS	15C/ RSS-247	BLE	2402 ~ 2480	Original Grant	DTS LE	All
DTS	15C/ RSS-247	WLAN	2412 ~ 2462	Original Grant	DTS 2.4GHz WiFi	All
NII	15E/ RSS-247	WLAN	5180 ~ 5240 5260 ~ 5320 5500 ~ 5700 5745 ~ 5825	Original Grant	WLAN(NII), DFS	All
DXX	15C/ RSS-210	NFC	13.56	Original Grant	DXX NFC	All