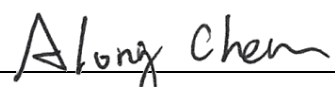


FCC Spot Check Test Report

FCC ID : MXF-WLTFGT145EUD
Equipment : WLTFGT-145ACN LTE Cat 12 B48 Indoor CPE
Model No. : WLTFGT-145ACN
Brand Name : Gemtek
Applicant : Gemtek Technology Co., Ltd.
Address : No. 15-1 Zhonghua Road, Hsinchu Industrial
Park, Hukou, Hsinchu, Taiwan, 30352.
Standard : 47 CFR FCC Part 15.247
47 CFR FCC Part 15.407
Received Date : Nov. 19, 2020
Tested Date : Mar. 03, 2021

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:

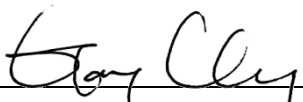

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FR0N1902	Rev. 01	Initial issue	Mar. 19, 2021

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
2400-2483.5	b	2412-2462	1-11 [11]	2	1-11 Mbps
2400-2483.5	g	2412-2462	1-11 [11]	2	6-54 Mbps
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15
Note 1: RF output power specifies that Maximum Peak Conducted Output Power. Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation. Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.					

RF General Information					
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS
5150-5250 5725-5850	a	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	6-54 Mbps
5150-5250 5725-5850	n (HT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-15
5150-5250 5725-5850	n (HT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-15
5150-5250 5725-5850	ac (VHT20)	5180-5240 5745-5825	36-48 [4] 149-165 [5]	2	MCS 0-9
5150-5250 5725-5850	ac (VHT40)	5190-5230 5755-5795	38-46 [2] 151-159 [2]	2	MCS 0-9
5150-5250 5725-5850	ac (VHT80)	5210 5775	42 [1] 155 [1]	2	MCS 0-9
Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n/ac uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.					

1.1.2 Antenna Details

Ant. No.	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5725~5850
1	dipole	I-PEX	2.45	3.27	3.3

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter
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1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: MOSO Model: MSA-C 1500CS12.0-18G-US Power Rating: I/P: 100-240Vac, 50/60Hz, 0.6A max O/P: 12Vdc, 1.5A Power Line: 1.5m non-shielded without core.
2	AC adapter	Brand: APD Model: WB-18Q12FU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A max O/P: 12Vdc, 1.5A Power Line: 1.5m non-shielded without core.
3	RJ45	1.5m non-shielded, without core.

1.1.5 Channel List

Frequency band (MHz)		2400~2483.5	
802.11 b / g / n HT20		802.11n HT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	3	2422
2	2417	4	2427
3	2422	5	2432
4	2427	6	2437
5	2432	7	2442
6	2437	8	2447
7	2442	9	2452
8	2447	---	---
9	2452	---	---
10	2457	---	---
11	2462	---	---

For Frequency band 5150-5250 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
36	5180	38	5190
40	5200	46	5230
44	5220	VHT80	
48	5240	42	5210

For Frequency band 5725~5850 MHz			
802.11 a / HT20 / VHT20		HT40 / VHT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
149	5745	151	5755
153	5765	159	5795
157	5785	VHT80	
161	5805	155	5775
165	5825	---	---

2 Referencing Test Data

2.1 Introduction

The variant model (FCC ID: MXF-WLTFGT145EUD) references the test data of original model (FCC ID: MXF-WLTFGT145CBSD).

Reference FCC ID	Equipment Class	Frequency bands	Reference Report Title
MXF-WLTFGT145CBSD	NII	5180-5240 MHz 5745-5825 MHz	FR0N1902AN
	DTS	2412-2462 MHz	FR0N1902AC

FCC ID: MXF-WLTFGT145CBSD / MXF-WLTFGT145EUD use the same internal printed circuit board

Applicant takes full responsibility that the test data as referenced below represents compliance for the FCC ID: MXF-WLTFGT145EUD.

2.2 Difference

Difference between FCC ID: MXF-WLTFGT145CBSD and MXF-WLTFGT145EUD is only software and output power index of LTE Band 48. Hardware is identical to each FCC ID.

Function	FCC ID: WLTFGT145CBSD	FCC ID: MXF-WLTFGT145EUD
Wi-Fi	2412 MHz ~ 2462 MHz 5180 MHz ~ 5240 MHz 5745 MHz ~ 5825 MHz	2412 MHz ~ 2462 MHz 5180 MHz ~ 5240 MHz 5745 MHz ~ 5825 MHz
LTE	3555 MHz ~ 3695 MHz	3555 MHz ~ 3695 MHz
	Operation mode: CPE-CBSD	Operation mode: End User device

2.3 Spot Check Verification Data

Test Item	Frequency band(GHz)	Mode	FCC ID: MXF-WLTFGT1 45CBSD	FCC ID: MXF-WLTFGT14 5EUD	Difference (dB)
Average Conducted Power (dBm)	2.4G	802.11b	23.58	23.46	0.12
		802.11g	26.1	26.05	0.05
		802.11n HT20	26.07	26.03	0.04
		802.11n HT40	25.15	25.05	0.1
		802.11ac VHT80	26.69	26.48	0.21
	5G	802.11a	26.68	26.53	0.15
		802.11an HT20	26.53	26.48	0.05
		802.11an HT40	23.28	23.15	0.13
		802.11ac VHT20	23.58	23.46	0.12
		802.11ac VHT40	26.1	26.05	0.05
Radiated Emission (Band Edge. Harmonic dBuV/m)	2.4G	802.11n HT20	52.98	52.85	0.13
	5.2G	802.11ac VHT40	52.97	52.78	0.19
	5.8G	802.11ac VHT20	67.12	67.05	0.07

2.4 Reference

Equipment Class	Reference FCC ID	Type Grant	Reference application	Reference Report Title
NII	MXF-WLTFGT145CBSD	Original	MXF-WLTFGT145EUD	FR0N1901AN
DTS	MXF-WLTFGT145CBSD	Original	MXF-WLTFGT145EUD	FR0N1901AC

2.5 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	03CH01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

2.6 The Equipment List

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Mar. 03, 2021				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 30, 2020	Apr. 29, 2021
Power Meter	Anritsu	ML2495A	1241002	Nov. 04, 2020	Nov. 03, 2021
Power Sensor	Anritsu	MA2411B	1207366	Nov. 04, 2020	Nov. 03, 2021
DC POWER SOURCE	GW INSTEK	GPC-6030D	GES855395	Nov. 09, 2020	Nov. 08, 2021
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 04, 2020	Dec. 03, 2021
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Mar. 03, 2021				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101498	Dec. 04, 2020	Dec. 03, 2021
Receiver	R&S	ESR3	101658	Feb. 08, 2021	Feb. 07, 2022
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 10, 2020	Jul. 09, 2021
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 11, 2020	Dec. 10, 2021
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 06, 2020	Nov. 05, 2021
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 17, 2020	Nov. 16, 2021
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 06, 2020	Oct. 05, 2021
Preamplifier	EMC	EMC02325	980225	Jul. 03, 2020	Jul. 02, 2021
Preamplifier	Agilent	83017A	MY39501308	Sep. 26, 2020	Sep. 25, 2021
Preamplifier	EMC	EMC184045B	980192	Jul. 21, 2020	Jul. 20, 2021
RF Cable	EMC	EMC104-SM-SM-8000	181106	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 06, 2020	Oct. 05, 2021
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 06, 2020	Oct. 05, 2021
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 06, 2020	Oct. 05, 2021
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 06, 2020	Oct. 05, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

2.7 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Measurement Uncertainty	
Parameters	Uncertainty
Conducted power	± 0.808 dB
Radiated emission ≤ 1 GHz	± 3.41 dB
Radiated emission > 1 GHz	± 4.59 dB

3 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
(R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==