

FCC Spot Check Test Report

FCC ID : ACQ-MG3
Equipment : Set Top Box
Model No. : MG3
Brand Name : ARRIS
Applicant : ARRIS
Address : 101 Tournament Drive, Horsham
Pennsylvania, United States, 19044
Standard : 47 CFR FCC Part 15.247
Received Date : Mar. 20, 2019
Tested Date : Jul. 05 ~ Jul. 23, 2019

We, International Certification Corp., 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
FR932003-03	Rev. 01	Initial issue	Sep. 04, 2019

1 General Description

1.1 Information

WLAN	
Operating Frequency	802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5720 MHz, 5745 ~ 5825 MHz
Modulation Type	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
BT	
Operating Frequency	2402 MHz ~ 2480 MHz
Modulation Type	Bluetooth 4.2 LE: GFSK Bluetooth BR(1Mbps): GFSK Bluetooth EDR (2Mbps): $\pi/4$ -DQPSK Bluetooth EDR (3Mbps): 8-DPSK

1.1.1 Antenna Details

For WLAN

Ant. No.	Model	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)				
				2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	M2420ARVS U_G115U	PIFA	UFL	3.2	4.1	4.7	5.1	5.1
2	M2420ARHS U_G55U	PIFA	UFL	3	4.9	4.2	5.3	5.5
3	M2420SDAR VSU_G120U	PIFA	UFL	2.5	5.3	6	5.5	3
4	M2420SDAR VSU_G270U	PIFA	UFL	2.8	4.5	4.5	4.2	2.8

For BT

Ant. No.	Type	Connector	Gain (dBi)	Remarks
1	Printing	N/A	3.6	---

1.1.2 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter
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1.1.3 Accessories

Accessories		
No.	Equipment	Description
1	Adapter	Brand: TiVo Manufacturer: LITE-ON INC Model: PB-1300-3AR5 Power Rating: I/P: 100-120Vac, 1.0A, 60Hz O/P: 12Vdc, 2.5A Power Line: 1.8m non-shielded without core
2	Adapter	Brand: TiVo Manufacturer: NETBIT ELECTRONICS LTD. Model: NBS36E120250VU Power Rating: I/P: 100-120Vac, 60Hz, 0.8A O/P: 12.0Vdc, 2.5A Power Line: 1.8m non-shielded without core
3	HDMI cable	1.8m shielded without core
4	HDD	Brand: SEAGATE Model: ST500VT001 Product: Video 2.5 HDD
5	M-CARD	Brand: ARRIS

2 Referencing Test Data

2.1 Introduction

The variant model (FCC ID: ACQ-MG3) references the test data of original model (FCC ID: ACQ-MG3R).

Reference FCC ID	Equipment Class	Frequency bands	Reference Report Title
ACQ-MG3R	NII	5180-5240 5260-5320 5500-5720 5745-5825	FR932003AN
	DTS	2412-2462 MHz 2402-2480 MHz	FR932003AC FR932003AE
	DSS	2402-2480 MHz	FR932003AD

FCC ID: ACQ-MG3R / ACQ-MG3 use the same internal printed circuit board, antenna and software version for Wi-Fi function.

Applicant takes full responsibility that the test data as referenced below represents compliance for the FCC ID: ACQ-MG3.

2.2 Difference

Difference between FCC ID: ACQ-MG3R / ACQ-MG3 is only RF4CE function by population / depopulation of components without PCB layout modification.

Characteristic		FCC ID: ACQ-MG3	FCC ID: ACQ-MG3R
Wireless function	Frequency band	2412-2462 MHz 5180-5240 MHz 5260-5320 MHz 5500-5720 MHz 5745-5825 MHz 2402-2480 MHz	2412-2462 MHz 5180-5240 MHz 5260-5320 MHz 5500-5720 MHz 5745-5825 MHz 2402-2480 MHz
	Antenna	Wi-Fi: PIFA BT: Printing antenna RF4CE: Printing antenna	Wi-Fi: PIFA BT: Printing antenna
	Operation modes	11a/b/g/n/ac, BT, RF4CE	11a/b/g/n/ac, BT
	RF4CE function (2425 ~ 2475 MHz)	O	X
Wired function	HDMI	O	O
	USB	O	O
	RJ45	O	O

2.3 Spot Check Verification Data

Test Item	Mode	FCC ID: ACQ-MG3R	FCC ID: ACQ-MG3	Difference (dB)
Average Conducted Power (dBm)	802.11b CH06	29.87	29.66	0.21
	802.11g CH06	26.89	26.78	0.11
	802.11ac VHT20 CH06	25.76	25.75	0.01
	802.11ac VHT40 CH06	23.6	23.54	0.06
	802.11ac40 CH46	21.9	21.73	0.17
	802.11ac40 CH54	22.12	22.06	0.06
	802.11ac VHT80 CH122	23.4	23.25	0.15
	802.11ac VHT40 CH151	28.96	28.76	0.2
	BT EDR CH0(1Mbps)	1.6	1.91	-0.31
	BT EDR CH0(2Mbps)	1.01	0.63	0.38
	BT EDR CH0(3Mbps)	1.21	0.82	0.39
	BLE CH0	1.47	1.71	-0.24
	RSE (Band Edge. Harmonic dBuV/m)	802.11b CH11	53.82	53.77
802.11ac VHT40 CH09		53.72	53.58	0.14
802.11ac VHT80 CH42		53.47	53.55	-0.08
802.11ac VHT80 CH58		53.71	53.7	0.01
802.11ac VHT80 CH106		67.87	67.81	0.06
802.11ac VHT20 CH149		68.03	67.92	0.11
BT EDR CH78(3Mbps)		63.12	63.66	-0.54
BLE CH0		44.65	44.43	0.22

2.4 Reference

Equipment Class	Reference FCC ID	Type Grant	Reference application	Reference Report Title
NII	ACQ-MG3R	Original	ACQ-MG3	FR932003AN
DTS	ACQ-MG3R	Original	ACQ-MG3	FR932003AC FR932003AE
DSS	ACQ-MG3R	Original	ACQ-MG3	FR932003AD

2.5 The Equipment List

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 17, 2019	Apr. 16, 2020
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
AC POWER SOURCE	APC	AFC-500W	F312060012	Nov. 29, 2018	Nov. 28, 2019
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 chamber 3 / (03CH03-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Jan. 07, 2019	Jan. 06, 2020
Receiver	R&S	ESR3	101658	Dec. 11, 2018	Dec. 10, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 17, 2019	Apr. 16, 2020
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 07, 2019	Jan. 06, 2020
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 08, 2018	Oct. 07, 2019
Preamplifier	EMC	EMC02325	980187	Aug. 24, 2018	Aug. 23, 2019
Preamplifier	Agilent	83017A	MY53270014	Aug. 09, 2018	Aug. 08, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Oct. 01, 2018	Sep. 30, 2019
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Oct. 01, 2018	Sep. 30, 2019
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Oct. 01, 2018	Sep. 30, 2019
LF cable-0.8M	EMC	EMC8D-NM-NM-8000	EMC8D-NM-NM-800-001	Oct. 01, 2018	Sep. 30, 2019
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Oct. 01, 2018	Sep. 30, 2019
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Oct. 01, 2018	Sep. 30, 2019
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

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 Corp (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>.

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