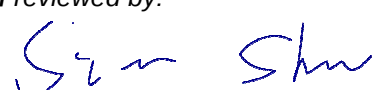


Prüfbericht-Nr.: <i>Test report No.:</i>	50205798 001	Auftrags-Nr.: <i>Order No.:</i>	164109923	Seite 1 von 25 <i>Page 1 of 25</i>	
Kunden-Referenz-Nr.: <i>Client reference No.:</i>	N/A	Auftragsdatum: <i>Order date.:</i>	02.11.2017		
Auftraggeber: <i>Client:</i>	Binatone Electronics International Ltd. Floor 23A, 9 Des Voeux Road West, Sheung Wan, Hong Kong				
Prüfgegenstand: <i>Test item:</i>	5" Video Baby Monitor With Wi-Fi Internet Viewing (Parent Unit)				
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	MBP844CONNECTPU, MBP845CONNECTPU, MBP855CONNECTPU (Trademark: motorola)				
Auftrags-Inhalt: <i>Order content:</i>	FCC and IC approval				
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 2 February 2017 CFR47 FCC Part 15: Subpart C Section 15.207 RSS-Gen Issue5 April 2018 CFR47 FCC Part 15: Subpart C Section 15.209 RSS-102 Issue 5 March 2015 CFR47 FCC Part 2: Section 2.1091				
Wareneingangsdatum: <i>Date of receipt:</i>	02.11.2017	Please refer to photo documents			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000638398-001 to 003				
Prüfzeitraum: <i>Testing period:</i>	02.11.2017 - 24.01.2018				
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Guangdong) Ltd.				
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Guangdong) Ltd.				
Prüfergebnis*: <i>Test result*:</i>	Pass				
geprüft von / tested by:		kontrolliert von / reviewed by:			
 17.10.2018 Amy Wang / Project Manager		 17.10.2018 Storm Shu / Technical Certifier			
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other:					
FCC ID: VLJ-MBP845SPU IC: 4522A-MBP845SPU HVIN: MBP855CONNECTPU					
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>			Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested					
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>					

Test Summary

5.1.1 ANTENNA REQUIREMENT*RESULT: Pass***5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER***RESULT: Pass***5.1.3 99% BANDWIDTH***RESULT: Pass***5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH***RESULT: Pass***5.1.5 RADIATED SPURIOUS EMISSION***RESULT: Pass***5.1.6 20dB BANDWIDTH***RESULT: Pass***5.1.7 CARRIER FREQUENCY SEPARATION***RESULT: Pass***5.1.8 NUMBER OF HOPPING FREQUENCY***RESULT: Pass***5.1.9 TIME OF OCCUPANCY***RESULT: Pass***5.1.10 CONDUCTED EMISSION ON AC MAINS***RESULT: Pass***6.1.1 ELECTROMAGNETIC FIELDS***RESULT: Pass*

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

Appendix B: Test Results of 2.4GHz FHSS Wireless

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Guangdong) Ltd.

No.102, 1F of Southwest and No.205, 2F No.767 Tianyuan Road, Tianhe District, Guangzhou 510663, Guangdong Province P.R. China

FCC Accreditation Designation No.: CN1207

Test site Industry Canada No.: 2932C-1

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

TÜV Rheinland (Guangdong) Ltd.

Radio Spectrum Testing				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Spectrum Analyzer	R & S	FSP30	100286	15.03.2018
Spurious Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R & S	ESCI-3	100216	17.09.2018
Spectrum Analyzer	R & S	FSP30	100286	15.03.2018
Loop Antenna	R & S	HFH2-Z2 (<30MHz)	100111	13.03.2019
Trilog-Broadband Antenna	Schwarzbeck	VULB9168 (30MHz-1GHz)	684	19.09.2019
Double-Ridged Waveguide Horn Antenna	R & S	HF907 (1-18GHz)	100377	26.10.2018
Standard Gain Horn Antenna	EMCO	3160-09 (18-26.5GHz)	21642	28.07.2019
Pre-amplifier	MITEQ	AFS33-18002650- 30-8P-44 (1-18GHz)	1108282	19.07.2019
Band Reject Filter	Micro-Tronics	BRM50702	023	06.07.2018
Conducted Emission on AC Mains				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R & S	ESCI-3	100314	11.04.2018
Two-Line V-Network	R & S	ESV216	100195	11.04.2018
Pulse Limiter	R & S	ESH3-Z2	100701	15.05.2018

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Item		Extended Uncertainty
Conducted Emission		± 2.68 dB
Radiated Emission (30-1000MHz)	Field strength (dBμV/m)	± 5.16 dB
Radiated Emission (above 1000MHz)	Field strength (dBμV/m)	± 2.22 dB
Radio Spectrum		± 4.51 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Guangdong) Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Guangdong) Ltd. Test facility located at No.102, 1F of Southwest and No.205, 2F No.767 Tianyuan Road, Tianhe District, Guangzhou 510663, Guangdong Province P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is a parent unit (monitor) of one of the 5" Video Baby Monitor With Wi-Fi Internet Viewing, which supports 2.4GHz FHSS wireless technology.

According to the declaration of the applicant, the electrical circuit design, PCB layout and components used are identical for all models, only the model number is different.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	5" Video Baby Monitor With Wi-Fi Internet Viewing (Parent Unit)
Type Designation	MBP844CONNECTPU, MBP845CONNECTPU, MBP855CONNECTPU
Trade Mark	motorola
FCC ID	VLJ-MBP845SPU
IC	4522A-MBP845SPU
HVIN	MBP855CONNECTPU
Operating Voltage	DC 5.0V@1000mA input via AC/DC adapter
Testing Voltage	AC 120V@60Hz
AC/DC Adapter 1#	Model: S006AKU0500100 (TenPao) Input: AC 100-240V~50/60Hz, 200mA Output: DC 5.0V@1000mA
AC/DC Adapter 2#	Model: AMS66-0501000FU (Amigo) Input: AC 100-240V~50/60Hz 200mA Output: DC 5.0V@1000mA
Battery 1#	Model: BL253 (Lenovo) DC 3.8V 2000mAh/7.6Wh Li-ion battery(Rated capacity) DC 3.8V 2050mAh/7.8Wh Li-ion battery(Typical capacity)
Technical Specification of 2.4GHz FHSS Wireless	
Operating Frequency	2402 - 2477 MHz
Type of Modulation	GFSK
Channel Number	22 channels
Channel Separation	2 or 5 MHz
Antenna Type	Integral antenna
Gain	0 dBi

Table 3: RF Channel and Frequency of General 2.4GHz Wireless

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
CH02	2402.0	CH30	2430.0	CH67	2467.0
CH04	2404.0	CH35	2435.0	CH69	2469.0
CH06	2406.0	CH40	2440.0	CH71	2471.0
CH08	2408.0	CH45	2445.0	CH73	2473.0
CH10	2410.0	CH50	2450.0	CH75	2475.0
CH15	2415.0	CH55	2455.0	CH77	2477.0
CH20	2420.0	CH60	2460.0	/	/
CH25	2425.0	CH65	2465.0	/	/

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, 2.4GHz FHSS wireless transmitting mode
 - 1. Low channel
 - 2. Middle channel
 - 3. High channel
- B. On, Transmitting on hopping channel
- C. On, 2.4GHz FHSS wireless connecting mode
- D. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- FCC/IC Label and Location Info
- Operation Description
- Photo Document
- Schematics
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model MBP845CONNECTPU in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Notebook	Lenovo	ThinkPad X260	PC0DZSKR	N/A

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

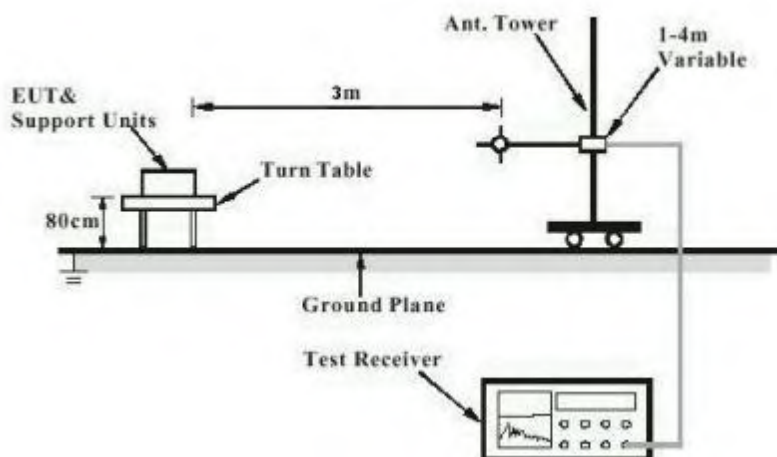


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

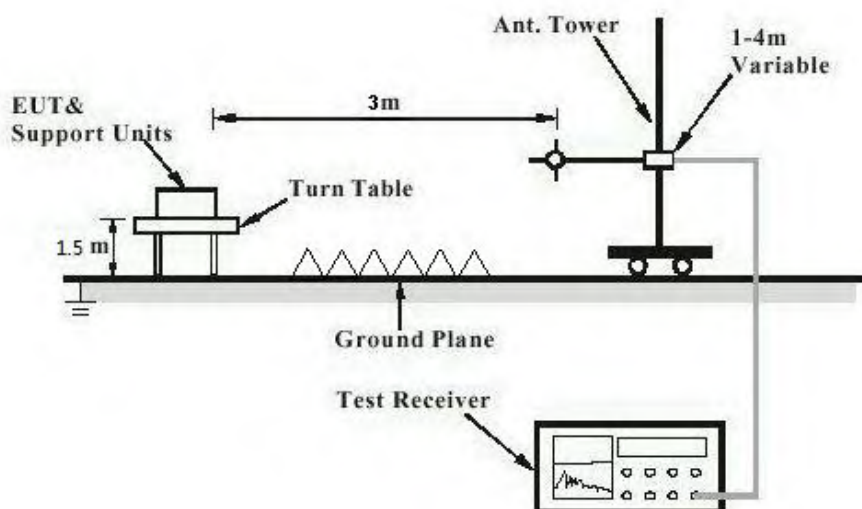


Diagram of Measurement Configuration for Mains Conduction Measurement

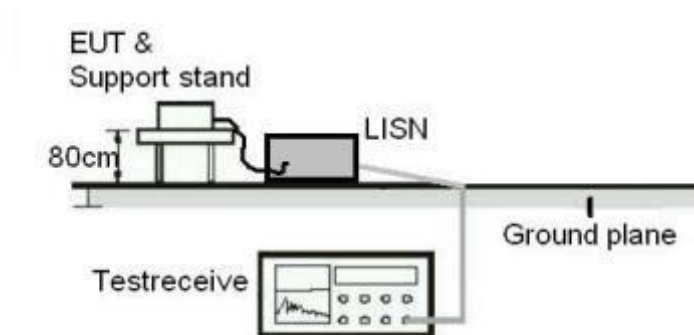
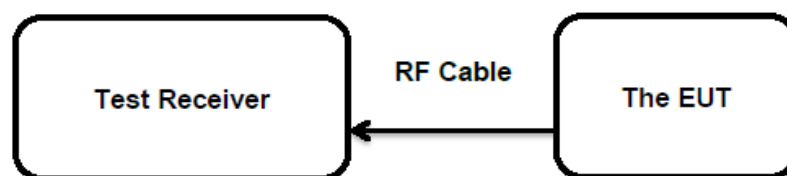


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(b)(4) and Part 15.203

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is 0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 Maximum Peak Conducted Output Power

RESULT:
Pass
Test Specification

Test standard	: FCC Part 15.247(b)(1) RSS-247 Clause 5.4(b)
Basic standard	: ANSI C63.10: 2013
Limits	: 0.125 Watts
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 24.11.2017
Input voltage	: AC 120V@60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For details refer to following test result.

Table 5: Test Result of Maximum Peak Conducted Output Power

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
2.4GHz FHSS	2402.0	11.39	0.0138	< 0.125
	2440.0	12.11	0.0163	
	2477.0	13.13	0.0206	
Maximum Measured Value		13.13	0.0206	

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G): 0 dBi,

The Maximum (e.i.r.p.)= $P_{\text{(Peak power)}} + G$, which is far below the 4 W

5.1.3 99% Bandwidth

RESULT:**Pass****Test Specification**

Test standard : RSS-Gen Clause 6.7
Basic standard : ANSI C63.10: 2013
Kind of test site : Shielded Room

Test Setup

Date of testing : 24.11.2017
Input voltage : AC 120V@60Hz
Operation mode : A
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

For details refer to following test result.

Table 6: Test Result of 99% Bandwidth

Test Mode	Test Channel (MHz)	99% Bandwidth (MHz)	Limit
2.4GHz FHSS	2402.0	1.52	/
	2440.0	1.56	
	2477.0	1.58	
Maximum Measured Value		1.58	

5.1.4 Conducted Spurious Emissions Measured in 100 kHz Bandwidth**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	: ANSI C63.10: 2013
Limits	: 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 24.11.2017
Input voltage	: AC 120V@60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix B.

5.1.5 Radiated Spurious Emission

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Issue 4 Table 4
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: Refer to test result
Input voltage	: AC 120V@60Hz
Operation mode	: A
Test channel	: Low / Middle / High
Ambient temperature	: 22 °C
Relative humidity	: 53 %
Atmospheric pressure	: 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix B.

5.1.6 20dB Bandwidth

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(a)(1)
RSS-247 Clause 5.1(a)

Basic standard : ANSI C63.10: 2013

Kind of test site : Shielded Room

Test Setup

Date of testing : 24.11.2017

Input voltage : AC 120V@60Hz

Operation mode : A

Test channel : Low / Middle / High

Ambient temperature : 25 °C

Relative humidity : 56 %

Atmospheric pressure : 101 kPa

Table 7: Test Result of 20dB Bandwidth

Test Mode	Frequency (MHz)	20dB Bandwidth (kHz)	2/3 of 20dB Bandwidth (kHz)	Limit (kHz)
2.4GHz FHSS	2402.0	1458.8	972.533	/
	2440.0	1453.0	968.667	
	2477.0	1458.8	972.533	
Maximum Measured Value		1458.8	972.533	

5.1.7 Carrier Frequency Separation

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.247(a)(1)
RSS-247 Clause 5.1(b)

Basic standard : ANSI C63.10: 2013

Limits : $\geq 25\text{kHz}$ or $2/3$ of 20dB bandwidth, whichever is greater

Kind of test site : Shielded Room

Test Setup

Date of testing : 24.11.2017

Input voltage : AC 120V@60Hz

Operation mode : B

Test channel : Low / Middle / High

Ambient temperature : 25 °C

Relative humidity : 56 %

Atmospheric pressure : 101 kPa

Table 8: Test Result of Carrier Frequency Separation

Test Mode	Test Channel	Frequency (MHz)	Measured Channel Separation (KHz)	Limit (kHz)
2.4GHz FHSS	Low Channel	2402.0	1814.80	≥ 25kHz or 2/3 of 20dB bandwidth
	Adjacency Channel	2404.0		
	Middle Channel	2440.0	5014.00	
	Adjacency Channel	2435.0		
	High Channel	2477.0	1997.10	
	Adjacency Channel	2475.0		

Note: The limit is maximum $2/3$ of the 20 dB bandwidth: 972.533 KHz.

5.1.8 Number of Hopping Frequency

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(a)(1)(iii)
RSS-247 Clause 5.1(d)
Basic standard : ANSI C63.10: 2013
Limits : ≥ 15 non-overlapping channels
Kind of test site : Shielded Room

Test Setup

Date of testing : 24.11.2017
Input voltage : AC 120V@60Hz
Operation mode : B
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 9: Test Result of Number of Hopping Frequency

Test Mode	Frequency Range	Measured Quantity of Hopping Channel	Limit
2.4GHz FHSS	2402 - 2477 MHz	22	≥ 15

For the measurement records, refer to the appendix B.

5.1.9 Time of Occupancy

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.247(a)(1)(iii)
RSS-247 Clause 5.1(d)
Basic standard : ANSI C63.10: 2013
Limits : < 0.4s
Kind of test site : Shielded Room

Test Setup

Date of testing : 24.11.2017
Input voltage : AC 120V@60Hz
Operation mode : B
Test channel : Low / Middle / High
Ambient temperature : 25 °C
Relative humidity : 56 %
Atmospheric pressure : 101 kPa

Table 10: Test Result of Time of Occupancy

Test Mode	Frequency (MHz)	Pulse width (ms)	Number of Channels	Measured Dwell time (s)	Limit (s)
2.4GHz FHSS	2402.0	0.210	140	0.029	0.4s
	2440.0	0.210	130	0.027	
	2477.0	0.200	130	0.026	

Note:

Dwell time = Pulse width x Number of channels in Period

Period = 0.4 (seconds/ channel) x 22 (channel) = 8.8 seconds

5.1.10 Conducted Emission on AC Mains**RESULT:****Pass****Test Specification**

Test standard	: FCC Part 15.207(a) RSS-Gen Clause 8.8
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a) RSS-Gen Table 3
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 16.01.2018
Input voltage	: AC 120V@60Hz
Operation mode	: C
Earthing	: Not connected
Ambient temperature	: 21 °C
Relative humidity	: 52 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix B.

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:

Pass

Test Specification

Test standard

: CFR47 FCC Part 2: Section 2.1091
CFR47 FCC Part 1: Section 1.1310
FCC KDB Publication 447498 D01 v06
FCC KDB Publication 865664 D01 v01r04
FCC KDB Publication 865664 D02 v01r02
RSS-102 Issue 5 March 2015

➤ FCC requirements

FCC requirement: Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

MPE Calculation Method according to KDB 865664 D01Power Density: $S_{(mW/cm^2)} = PG/4\pi R^2$ or $EIRP/4\pi R^2$

Where:

S = power density (mW/cm²)

P = power input to the antenna (mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (cm)

The nominal maximum conducted output power specified:

2.4GHz FHSS: 14 dBm

From the peak RF output power, the minimum mobile separation distance, d=20 cm, as well as the antenna gain (Max. 0.0 dBi), the RF power density can be calculated as below:

For 2.4GHz FHSS: $S_{(mW/cm^2)} = PG/4\pi R^2 = 0.005 \text{ mW/cm}^2$ **Limits for Maximum Permissible Exposure (MPE) according to FCC Part 1.1310:**1.0 mW/cm²

➤ **IC requirements:** The EUT shall comply with the requirement of RSS-102 section 2.5.2.

Exemption from Routine Evaluation Limits – RF Exposure Evaluation

RF exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm, except when the device operates as follows:

at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum e.i.r.p. of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz;

- RF exposure evaluation exempted power for 2.4GHz FHSS: 2.670 W

The nominal maximum conducted output power specified:

2.4GHz FHSS: 14 dBm

Antenna Gain: 0.0 dBi for 2.4GHz FHSS

The Max. e.i.r.p. for 2.4GHz FHSS: 14.00 dBm = 0.025 W

The e.i.r.p. for 2.4GHz FHSS is less than the RF exposure evaluation exempted power. So RF exposure evaluation is not required.

“RF Radiation Exposure Statement Caution: This Transmitter must be installed to provide a separation distance of at least 20 cm from all persons.”

7 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix A.

8 List of Tables

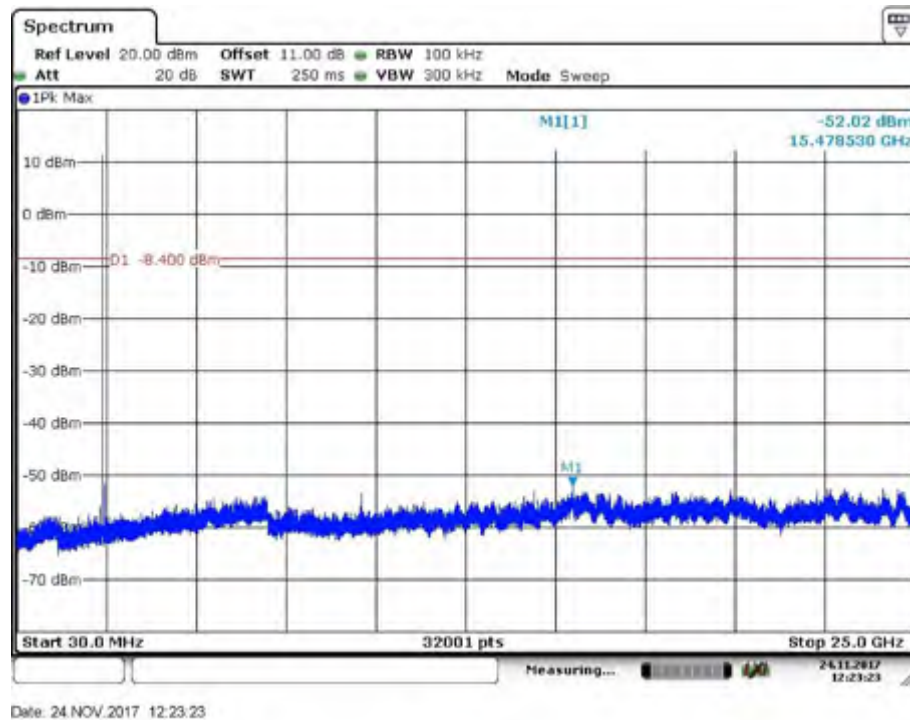
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Appendix B: Test Results of 2.4GHz FHSS Wireless

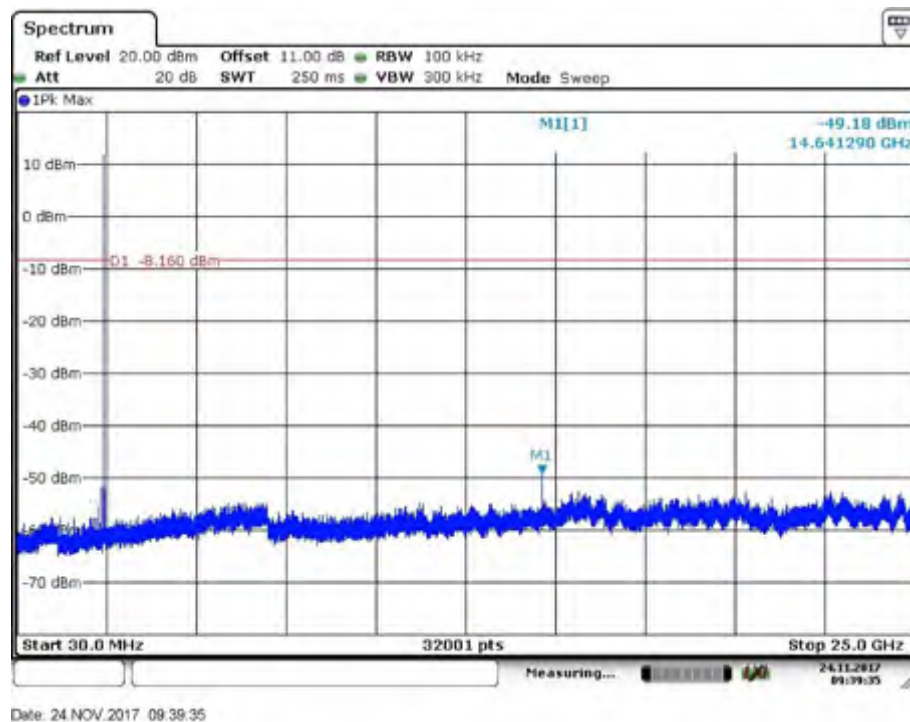
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Appendix B.1: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

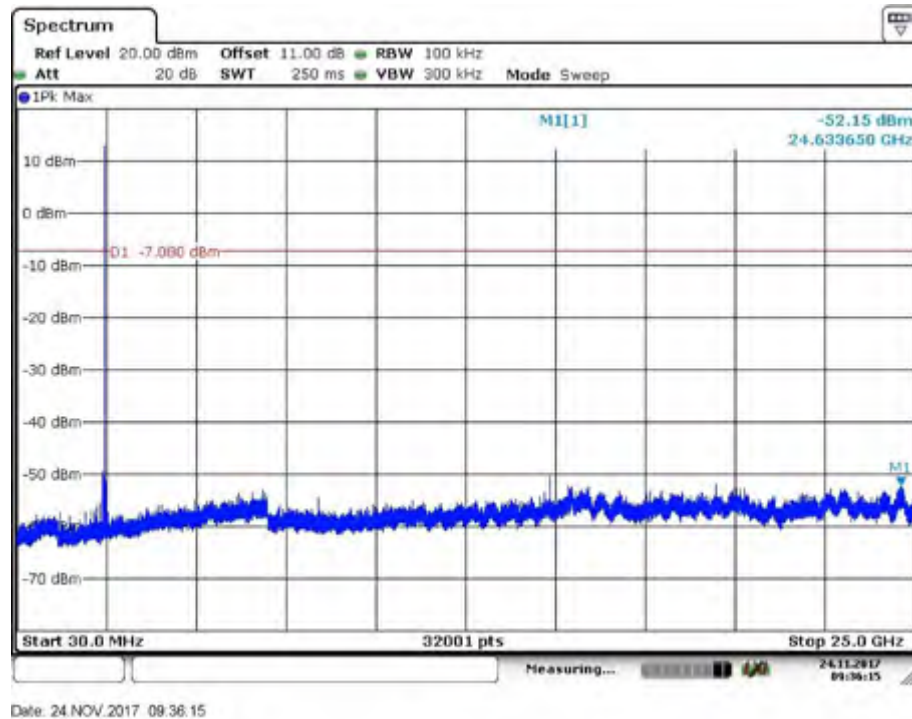
Low Channel



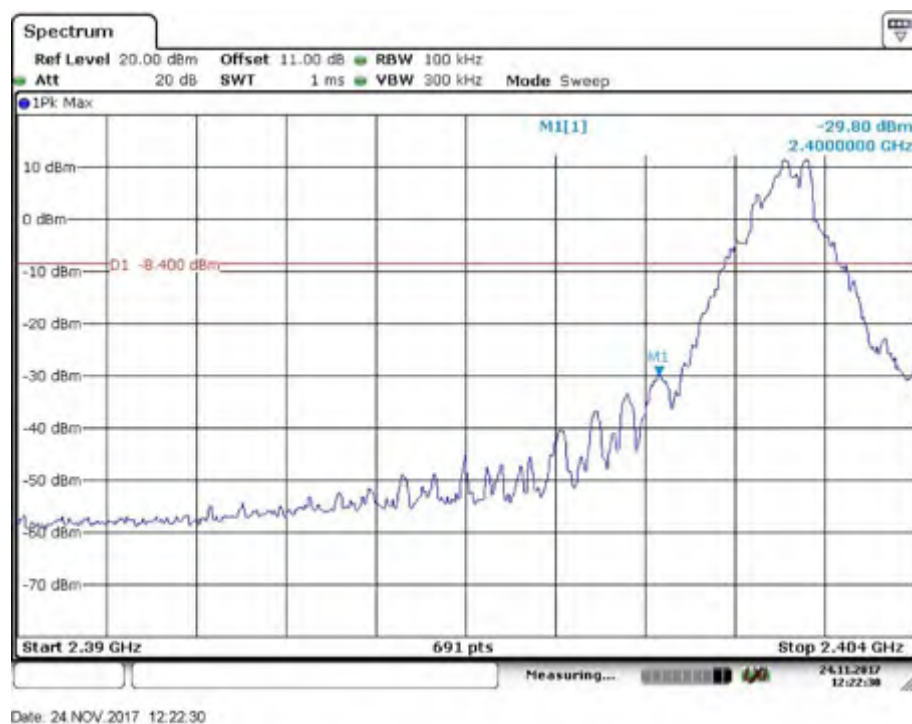
Middle Channel



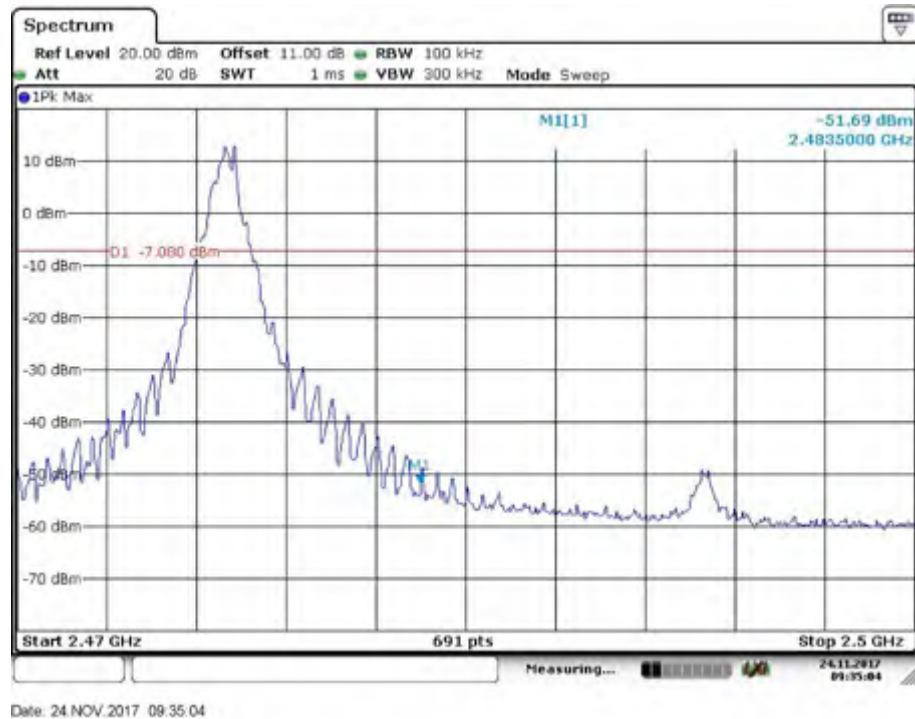
High Channel



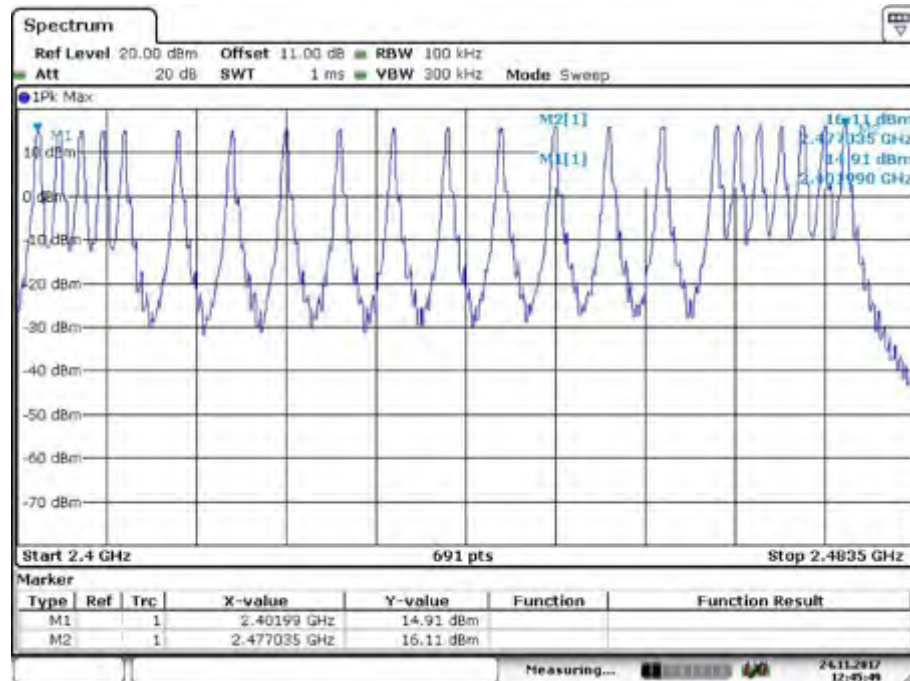
Band Edge, Low Channel



Band Edge, High Channel



Appendix B.2: Test Results of Number of Hopping Frequency



Date: 24.NOV.2017 12:45:49

Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz -26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

Appendix B.3: Test Results of Radiated Spurious Emissions 30MHz - 1GHz

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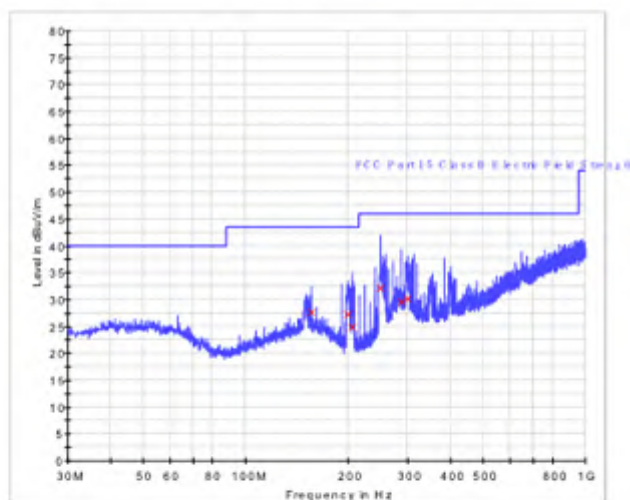
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	
Identification:	MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(High)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency range:	30-1000MHz
Receiver:	ESCI 3
Transducer:	VULB9168



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
155.960000	27.6	1000.0	120.000	H	21.3	15.9	43.5	
199.760000	27.2	1000.0	120.000	H	18.0	16.3	43.5	
206.280000	24.9	1000.0	120.000	H	17.9	18.7	43.5	
249.600000	32.0	1000.0	120.000	H	19.7	14.0	46.0	
288.160000	29.7	1000.0	120.000	H	21.4	16.3	46.0	
300.400000	30.1	1000.0	120.000	H	21.7	15.9	46.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

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EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

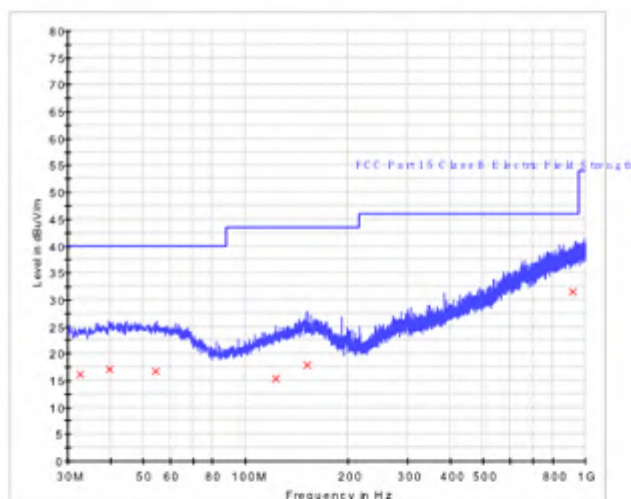
Common Information

Manufacturer:
Test Item:
Identification:
Test Standard:
Test Detail:
Operation Mode:
Climate Condition:
Test Voltage/ Freq:
Receipt No:
Report No:
Result:
Comment:

MBP845CONNECTPU/ MBP855CONNECTPU
FCC Part 15
Radiated Emission
Transmitting(High)
21 °C; 52 %RH; 101 kPa.
AC 120 V/ 60 Hz
174077665/164109922
/
Pass
Test distance is 3m; Vertical

Subrange 1
Frequency range:
Receiver:
Transducer:

30-1000MHz
ESCI 3
VULB9168



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
32.560000	16.2	1000.0	120.000	V	19.6	23.8	40.0	
39.960000	17.2	1000.0	120.000	V	20.8	22.8	40.0	
54.240000	16.7	1000.0	120.000	V	20.4	23.3	40.0	
122.640000	15.5	1000.0	120.000	V	19.4	28.1	43.5	
151.720000	17.9	1000.0	120.000	V	21.2	25.6	43.5	
920.840000	31.5	1000.0	120.000	V	34.8	14.6	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180116

TUV Rheinland (Guangdong) Ltd.

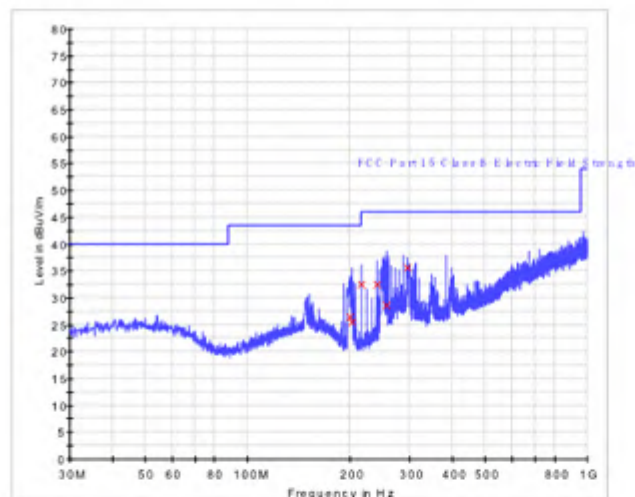
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:
Test Item:
Identification: MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard: FCC Part 15
Test Detail: Radiated Emission
Operation Mode: Transmitting(Low)
Climate Condition: 21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq: AC 120 V/ 60 Hz
Receipt No: 174077665/164109922
Report No: /
Result: Pass
Comment: Test distance is 3m; Horizontal

Subrange 1
Frequency range: 30-1000MHz
Receiver: ESCI 3
Transducer: VULB9168



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
200.120000	26.5	1000.0	120.000	H	18.0	17.0	43.5	
203.280000	25.5	1000.0	120.000	H	17.9	18.1	43.5	
216.000000	32.6	1000.0	120.000	H	17.8	11.0	43.5	
240.000000	32.6	1000.0	120.000	H	19.4	13.5	46.0	
255.880000	28.7	1000.0	120.000	H	20.0	17.3	46.0	
296.040000	35.7	1000.0	120.000	H	21.6	10.4	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

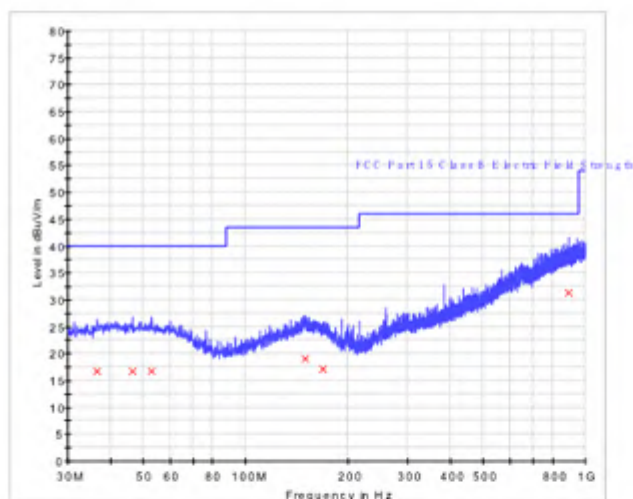
Common Information

Manufacturer:
Test Item:
Identification:
Test Standard:
Test Detail:
Operation Mode:
Climate Condition:
Test Voltage/ Freq:
Receipt No:
Report No:
Result:
Comment:

MBP845CONNECTPU/ MBP855CONNECTPU
FCC Part 15
Radiated Emission
Transmitting(Low)
21 °C; 52 %RH; 101 kPa.
AC 120 V/ 60 Hz
174077665/164109922
/
Pass
Test distance is 3m; Vertical

Subrange 1
Frequency range:
Receiver:
Transducer:

30-1000MHz
ESCI 3
VULB9168



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
36.680000	16.8	1000.0	120.000	V	20.1	23.2	40.0	
46.480000	16.8	1000.0	120.000	V	20.6	23.2	40.0	
53.040000	16.7	1000.0	120.000	V	20.5	23.3	40.0	
149.920000	19.1	1000.0	120.000	V	21.2	24.4	43.5	
169.320000	17.2	1000.0	120.000	V	21.0	26.3	43.5	
890.760000	31.4	1000.0	120.000	V	34.5	14.6	46.0	

Tested by:

Jacky Chen

Reviewed by: _____

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EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

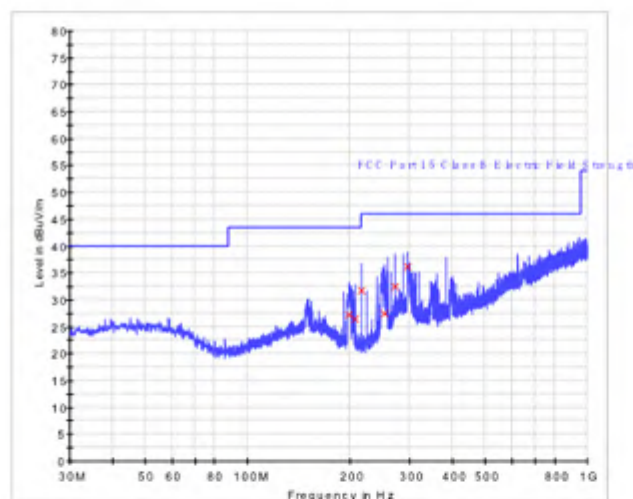
Common Information

Manufacturer:
Test Item:
Identification:
Test Standard:
Test Detail:
Operation Mode:
Climate Condition:
Test Voltage/ Freq:
Receipt No:
Report No:
Result:
Comment:

MBP845CONNECTPU/ MBP855CONNECTPU
FCC Part 15
Radiated Emission
Transmitting(Mid)
21 °C; 52 %RH; 101 kPa.
AC 120 V/ 60 Hz
174077665/164109922
/
Pass
Test distance is 3m; Horizontal

Subrange 1
Frequency range:
Receiver:
Transducer:

30-1000MHz
ESCI 3
VULB9168



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
198.520000	27.3	1000.0	120.000	H	18.1	16.2	43.5	
207.760000	26.6	1000.0	120.000	H	17.9	16.9	43.5	
216.000000	31.8	1000.0	120.000	H	17.8	11.7	43.5	
253.080000	27.5	1000.0	120.000	H	19.9	18.5	46.0	
272.120000	32.5	1000.0	120.000	H	20.8	13.5	46.0	
296.040000	36.2	1000.0	120.000	H	21.6	9.8	46.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

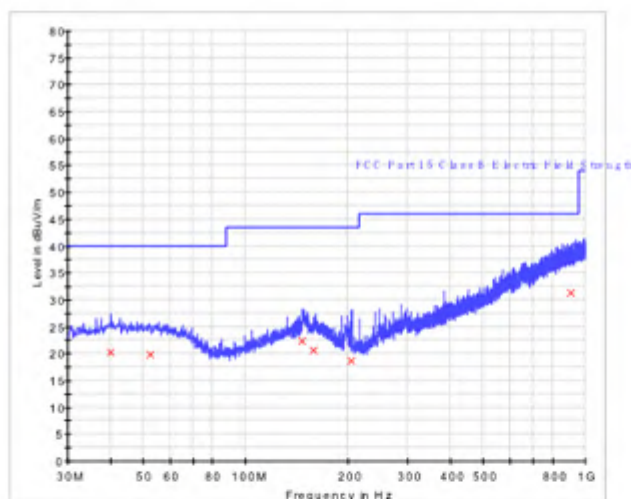
Common Information

Manufacturer:
Test Item:
Identification:
Test Standard:
Test Detail:
Operation Mode:
Climate Condition:
Test Voltage/ Freq:
Receipt No:
Report No:
Result:
Comment:

MBP845CONNECTPU/ MBP855CONNECTPU
FCC Part 15
Radiated Emission
Transmitting(Mid)
21 °C; 52 %RH; 101 kPa.
AC 120 V/ 60 Hz
174077665/164109922
/
Pass
Test distance is 3m; Vertical

Subrange 1
Frequency range:
Receiver:
Transducer:

30-1000MHz
ESCI 3
VULB9168



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)	Comment
40.200000	20.3	1000.0	120.000	V	20.8	19.7	40.0	
52.560000	19.9	1000.0	120.000	V	20.6	20.1	40.0	
147.120000	22.5	1000.0	120.000	V	21.0	21.0	43.5	
158.400000	20.6	1000.0	120.000	V	21.4	22.9	43.5	
205.080000	18.7	1000.0	120.000	V	17.9	24.8	43.5	
906.040000	31.4	1000.0	120.000	V	34.6	14.6	46.0	

Tested by:

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Reviewed by: _____

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1GHz - 18GHz

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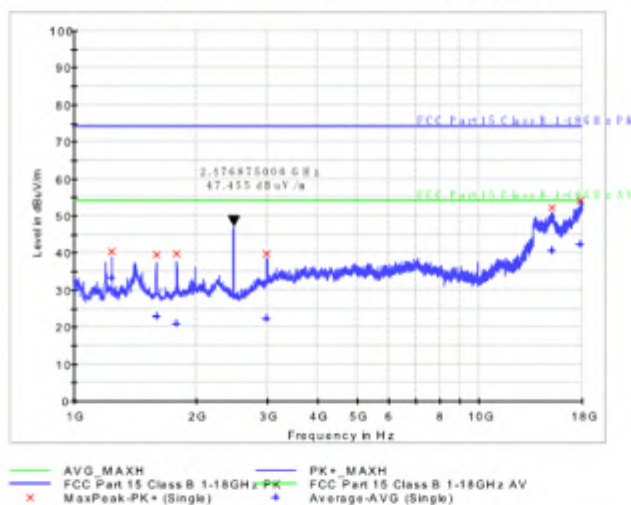
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	MBP845CONNECTPU/ MBP855CONNECTPU
Identification:	FCC Part 15
Test Standard:	Radiated Emission
Operation Mode:	Transmitting(High)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_ERE011-A02-07_1GHz-18GHz_W 8h PreAMP EXT & Notch filter



Tested by:

Jacky Chen

Reviewed by: _____

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
1238.000000	40.5	1000.0	1000.000	H	-19.0	33.5	74.0	
1595.000000	39.6	1000.0	1000.000	H	-17.4	34.4	74.0	
1795.000000	39.8	1000.0	1000.000	H	-16.7	34.2	74.0	
2989.000000	39.9	1000.0	1000.000	H	-12.6	34.1	74.0	
15167.000000	52.4	1000.0	1000.000	H	5.7	21.6	74.0	
17813.000000	54.2	1000.0	1000.000	H	9.7	19.8	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
1238.000000	33.4	1000.0	1000.000	H	-19.0	20.6	54.0	
1595.000000	23.0	1000.0	1000.000	H	-17.4	31.0	54.0	
1795.000000	20.8	1000.0	1000.000	H	-16.7	33.2	54.0	
2989.000000	22.2	1000.0	1000.000	H	-12.6	31.8	54.0	
15167.000000	40.6	1000.0	1000.000	H	5.7	13.4	54.0	
17813.000000	42.5	1000.0	1000.000	H	9.7	11.5	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

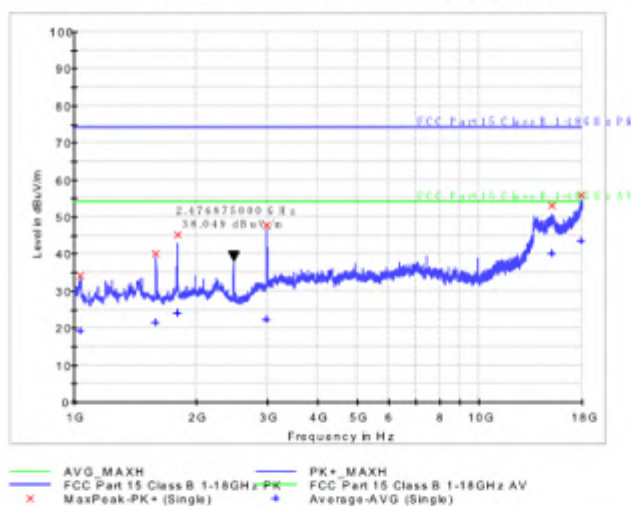
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	
Identification:	MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission
Operation Mode:	Transmitting(High)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Vertical

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREF011-A02-07_1GHz-18GHz_W 8h PwAMP EXT& Notch Filter



Tested by:

Jacky Chen

Reviewed by:

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
1038.000000	34.3	1000.0	1000.000	V	-19.7	39.7	74.0	
1593.000000	40.2	1000.0	1000.000	V	-17.4	33.8	74.0	
1799.000000	45.1	1000.0	1000.000	V	-16.7	28.9	74.0	
2991.000000	47.6	1000.0	1000.000	V	-12.6	26.4	74.0	
15157.000000	53.1	1000.0	1000.000	V	5.7	20.9	74.0	
17936.000000	56.0	1000.0	1000.000	V	10.3	18.1	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
1038.000000	19.2	1000.0	1000.000	V	-19.7	34.8	54.0	
1593.000000	21.6	1000.0	1000.000	V	-17.4	32.4	54.0	
1799.000000	23.9	1000.0	1000.000	V	-16.7	30.1	54.0	
2991.000000	22.2	1000.0	1000.000	V	-12.6	31.8	54.0	
15157.000000	40.1	1000.0	1000.000	V	5.7	14.0	54.0	
17936.000000	43.5	1000.0	1000.000	V	10.3	10.5	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

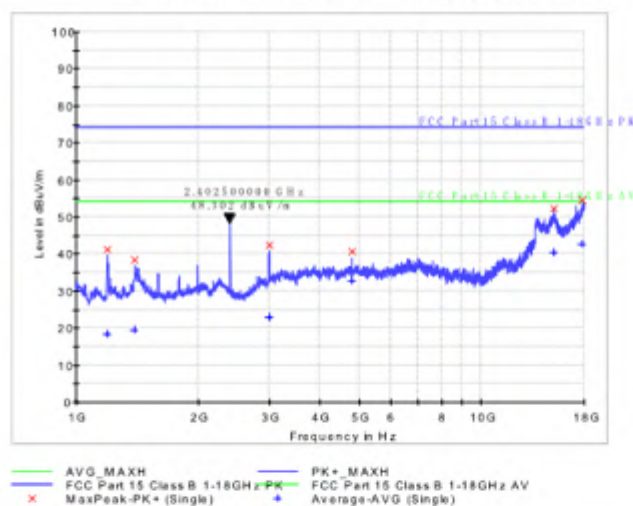
EMC Test Record (Emission)

Common Information

Manufacturer:
Test Item:
Identification: MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard: FCC Part 15
Test Detail: Radiated Emission
Operation Mode: Transmitting(Low)
Climate Condition: 21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq: AC 120 V/ 60 Hz
Receipt No: 174077665/164109922
Report No: /
Result: Pass
Comment: Test distance is 3m; Horizontal

Subrange 1
Frequency Range: 1GHz-18GHz
Receiver: TUV FSP30
Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREF011-A02-07_1GHz-18GHz_W 8h PwAMP EXT& Notch Filter



Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
1193.000000	41.2	1000.0	1000.000	H	-19.1	32.8	74.0	
1395.000000	38.5	1000.0	1000.000	H	-19.0	35.5	74.0	
3000.000000	42.3	1000.0	1000.000	H	-12.5	31.7	74.0	
4804.000000	40.6	1000.0	1000.000	H	-7.8	33.4	74.0	
15144.000000	52.2	1000.0	1000.000	H	5.7	21.8	74.0	
17817.000000	54.5	1000.0	1000.000	H	9.7	19.5	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
1193.000000	18.3	1000.0	1000.000	H	-19.1	35.7	54.0	
1395.000000	19.4	1000.0	1000.000	H	-19.0	34.6	54.0	
3000.000000	22.9	1000.0	1000.000	H	-12.5	31.1	54.0	
4804.000000	32.8	1000.0	1000.000	H	-7.8	21.2	54.0	
15144.000000	40.3	1000.0	1000.000	H	5.7	13.7	54.0	
17817.000000	42.6	1000.0	1000.000	H	9.7	11.4	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

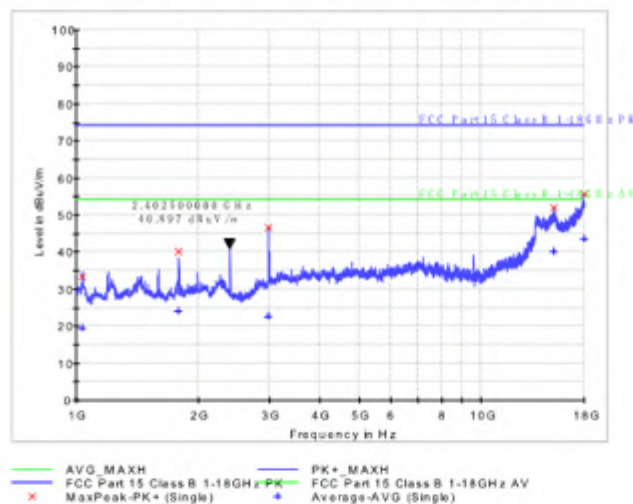
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	MBP845CONNECTPU/ MBP855CONNECTPU
Identification:	FCC Part 15
Test Standard:	Radiated Emission
Test Detail:	Transmitting(Low)
Operation Mode:	
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Vertical
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREF011-A02-07_1GHz-18GHz_W 8h PwAMP EXT& Notch Filter



Tested by:

Jacky Chen

Reviewed by:

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
1038.000000	33.3	1000.0	1000.000	V	-19.7	40.7	74.0	
1795.000000	40.2	1000.0	1000.000	V	-16.7	33.8	74.0	
2993.000000	46.6	1000.0	1000.000	V	-12.6	27.4	74.0	
15172.000000	52.1	1000.0	1000.000	V	5.7	21.9	74.0	
17989.000000	55.7	1000.0	1000.000	V	10.3	18.3	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
1038.000000	19.6	1000.0	1000.000	V	-19.7	34.4	54.0	
1795.000000	24.1	1000.0	1000.000	V	-16.7	29.9	54.0	
2993.000000	22.5	1000.0	1000.000	V	-12.6	31.5	54.0	
15172.000000	40.1	1000.0	1000.000	V	5.7	13.9	54.0	
17989.000000	43.5	1000.0	1000.000	V	10.3	10.5	54.0	

Tested by:  Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

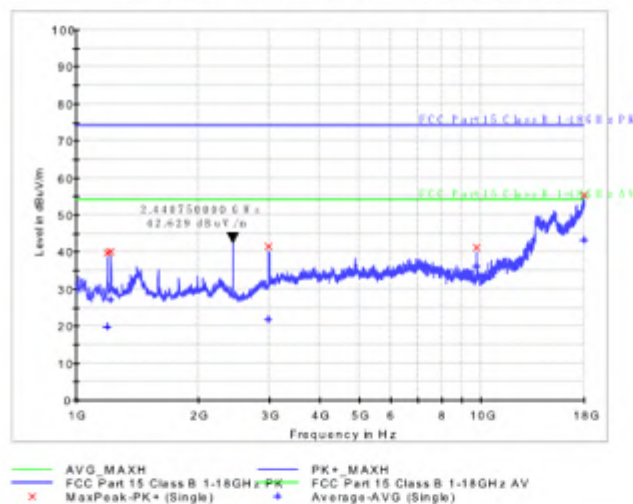
EMC Test Record (Emission)

Common Information

Manufacturer:
Test Item:
Identification: MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard: FCC Part 15
Test Detail: Radiated Emission
Operation Mode: Transmitting(Mid)
Climate Condition: 21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq: AC 120 V/ 60 Hz
Receipt No: 174077665/164109922
Report No: /
Result: Pass
Comment: Test distance is 3m; Horizontal

Subrange 1
Frequency Range: 1GHz-18GHz
Receiver: TUV FSP30
Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREF011-A02-07_1GHz-18GHz_W 8h PwAMP EXT& Notch Filter



Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
1195.000000	39.8	1000.0	1000.000	H	-19.1	34.2	74.0	
1219.000000	40.2	1000.0	1000.000	H	-19.0	33.8	74.0	
2993.000000	41.6	1000.0	1000.000	H	-12.6	32.4	74.0	
9761.000000	41.2	1000.0	1000.000	H	-3.4	32.8	74.0	
17972.000000	55.2	1000.0	1000.000	H	10.4	18.8	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
1195.000000	19.7	1000.0	1000.000	H	-19.1	34.3	54.0	
1219.000000	27.2	1000.0	1000.000	H	-19.0	26.8	54.0	
2993.000000	21.6	1000.0	1000.000	H	-12.6	32.4	54.0	
9761.000000	36.2	1000.0	1000.000	H	-3.4	17.8	54.0	
17972.000000	43.2	1000.0	1000.000	H	10.4	10.8	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

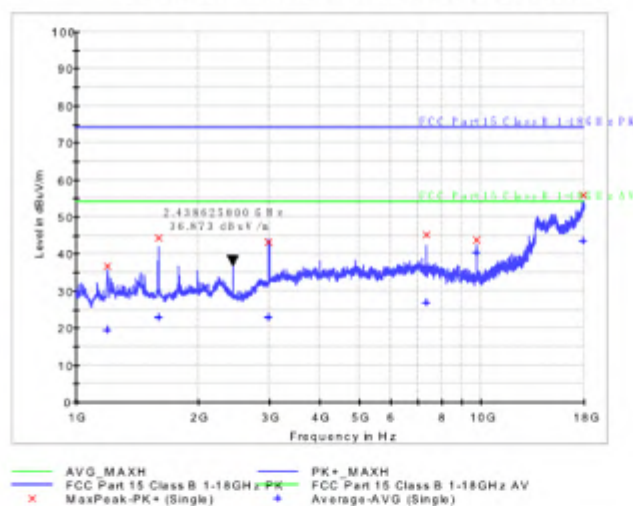
EMC Test Record (Emission)

Common Information

Manufacturer:
Test Item:
Identification: MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard: FCC Part 15
Test Detail: Radiated Emission
Operation Mode: Transmitting(Mid)
Climate Condition: 21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq: AC 120 V/ 60 Hz
Receipt No: 174077665/164109922
Report No: /
Result: Pass
Comment: Test distance is 3m; Vertical

Subrange 1
Frequency Range: 1GHz-18GHz
Receiver: TUV FSP30
Transducer: TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREF011-A02-07_1GHZ-18GHZ_W 8h PwAMP EXT& Notch Filter



Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
1193.000000	36.8	1000.0	1000.000	V	-19.1	37.2	74.0	
1597.000000	44.3	1000.0	1000.000	V	-17.4	29.7	74.0	
2993.000000	43.3	1000.0	1000.000	V	-12.6	30.7	74.0	
7320.000000	45.2	1000.0	1000.000	V	-5.6	28.8	74.0	
9761.000000	43.9	1000.0	1000.000	V	-3.4	30.1	74.0	
17917.000000	55.8	1000.0	1000.000	V	10.2	18.2	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
1193.000000	19.6	1000.0	1000.000	V	-19.1	34.5	54.0	
1597.000000	23.0	1000.0	1000.000	V	-17.4	31.1	54.0	
2993.000000	22.9	1000.0	1000.000	V	-12.6	31.1	54.0	
7320.000000	26.9	1000.0	1000.000	V	-5.6	27.1	54.0	
9761.000000	40.3	1000.0	1000.000	V	-3.4	13.7	54.0	
17917.000000	43.4	1000.0	1000.000	V	10.2	10.6	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

Appendix B.4: Test Results of Radiated Emissions in Restricted Bands

Low channel

TUV Rheinland (Guangdong) Ltd.

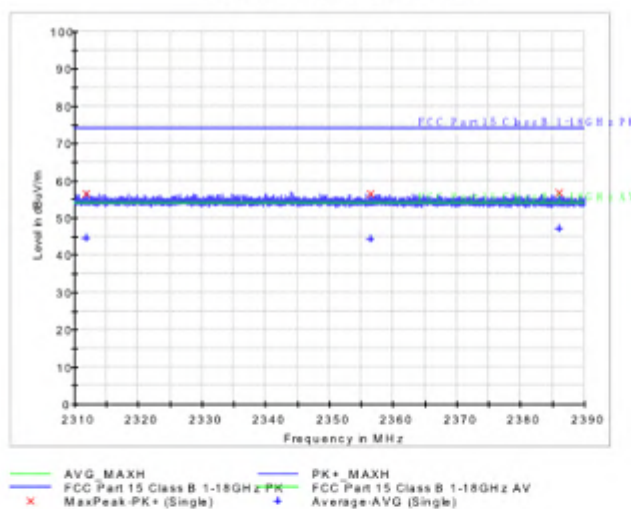
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	MBP845CONNECTPU / MBP855CONNECTPU
Identification:	
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission(Band-edge; Low)
Operation Mode:	Transmitting(Mid)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFD11-A02-04_1GHz-18GHz



Tested by:

Jacky Chen

Reviewed by:

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
2311.840000	56.4	1000.0	1000.000	H	30.7	17.6	74.0	
2356.480000	56.4	1000.0	1000.000	H	30.9	17.6	74.0	
2386.000000	56.8	1000.0	1000.000	H	31.1	17.2	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
2311.840000	44.5	1000.0	1000.000	H	30.7	9.5	54.0	
2356.480000	44.5	1000.0	1000.000	H	30.9	9.5	54.0	
2386.000000	47.1	1000.0	1000.000	H	31.1	6.9	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

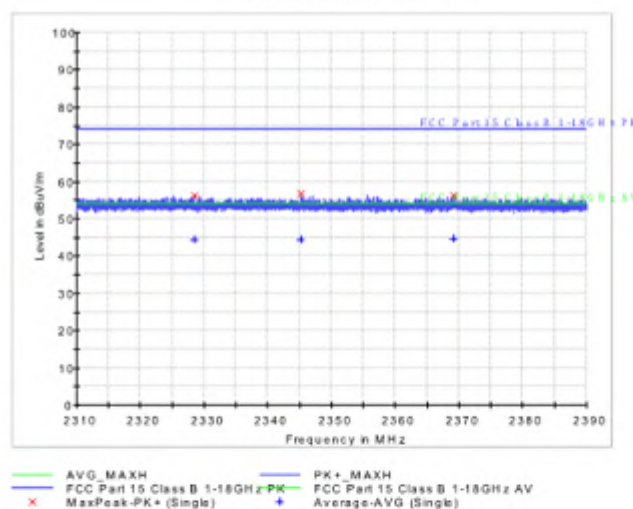
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	MBP845CONNECTPU / MBP855CONNECTPU
Identification:	
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission(Band-edge; Low)
Operation Mode:	Transmitting(Mid)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Vertical
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFD11-A02-04_1GHz-18GHz



Tested by: Jacky Chen Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
2328.520000	56.2	1000.0	1000.000	V	30.8	17.8	74.0	
2345.200000	56.9	1000.0	1000.000	V	30.8	17.1	74.0	
2369.200000	56.2	1000.0	1000.000	V	31.0	17.8	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
2328.520000	44.4	1000.0	1000.000	V	30.8	9.6	54.0	
2345.200000	44.4	1000.0	1000.000	V	30.8	9.6	54.0	
2369.200000	44.6	1000.0	1000.000	V	31.0	9.4	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

High channel

TUV Rheinland (Guangdong) Ltd.

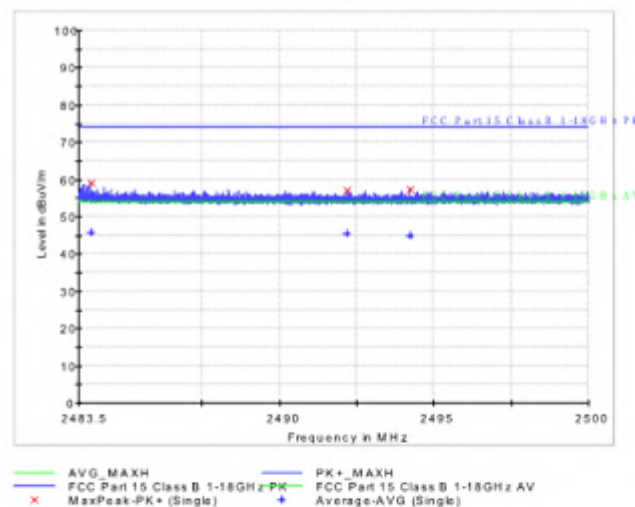
EMC Test Service Hotline: +86-20-28391188

EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	
Identification:	
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission(Band-edge; High)
Operation Mode:	Transmitting(Mid)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Horizontal
Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_ERE011-A02-04_1GHz-18GHz



Tested by:

Jacky Chen

Reviewed by: _____

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
2483.920000	59.2	1000.0	1000.000	H	31.8	14.8	74.0	
2492.200000	56.9	1000.0	1000.000	H	31.8	17.1	74.0	
2494.240000	57.3	1000.0	1000.000	H	31.8	16.7	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
2483.920000	45.7	1000.0	1000.000	H	31.8	8.3	54.0	
2492.200000	45.6	1000.0	1000.000	H	31.8	8.4	54.0	
2494.240000	44.9	1000.0	1000.000	H	31.8	9.1	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

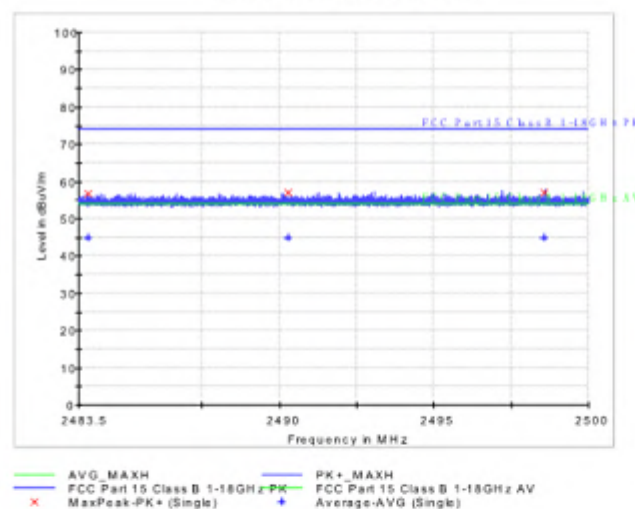
EMC Test Record (Emission)

Common Information

Manufacturer:	
Test Item:	MBP845CONNECTPU / MBP855CONNECTPU
Identification:	
Test Standard:	FCC Part 15
Test Detail:	Radiated Emission(Band-edge)
Operation Mode:	Transmitting(Mid)
Climate Condition:	21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq:	AC 120 V/ 60 Hz
Receipt No:	174077665/164109922
Report No:	/
Result:	Pass
Comment:	Test distance is 3m; Vertical

Subrange 1	
Frequency Range:	1GHz-18GHz
Receiver:	TUV FSP30
Transducer:	TUV SAC HF907/ TUV FSP30-TUV SAC HF907

EMCTT_EREFD11-A02-04_1GHz-18GHz



Tested by:

Jacky Chen

Reviewed by: _____

20180116

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Limit and Margin PK

Frequency (MHz)	MaxPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - PK+ (dB)	Limit - PK+ (dBuV/m)	Comment
2483.800000	56.8	1000.0	1000.000	V	31.8	17.2	74.0	
2490.280000	57.2	1000.0	1000.000	V	31.8	16.8	74.0	
2498.560000	57.1	1000.0	1000.000	V	31.9	17.0	74.0	

Limit and Margin AV

Frequency (MHz)	Average (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Pol	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBuV/m)	Comment
2483.800000	44.9	1000.0	1000.000	V	31.8	9.1	54.0	
2490.280000	44.9	1000.0	1000.000	V	31.8	9.1	54.0	
2498.560000	45.0	1000.0	1000.000	V	31.9	9.0	54.0	

Tested by: *Jacky Chen* Reviewed by: _____
20180116

Appendix B.5: Test Results of Conducted Emission on AC Mains C mode with adapter 1#

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

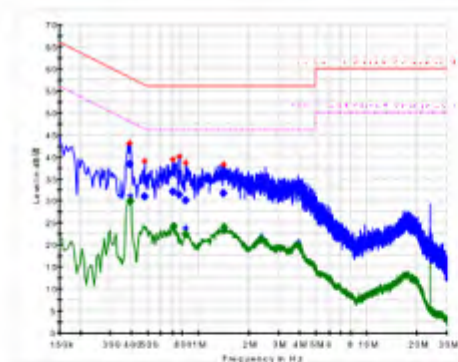
EMC Test Record (EMISSION)

Test Information

Manufacturer:
Test Item:
Identification: MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard: FCC Part 15
Test Detail: Conducted Emission
Operation Mode: On(with TenPao's adaptor)
Climate Condition: 21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq.: AC 120 V/ 60 Hz
Port / Line: AC Mains(L1+N)
Receipt No.: 174077665/164109922
Report No.: /
Result: Pass
Comment: /

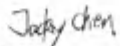
Hardware Setup: 1phase LISN ENV216 to ESCI 3
Level Unit: dBμV

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCI 3



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.393000	38.29	---	58.00	19.71	1000.	9.000	L1	ON	9.8
0.397500	---	29.85	47.91	18.05	1000.	9.000	L1	ON	9.8
0.478500	30.94	---	56.37	25.43	1000.	9.000	L1	ON	9.7
0.708000	32.03	---	56.00	23.97	1000.	9.000	L1	ON	9.8
0.717000	---	24.21	46.00	21.79	1000.	9.000	L1	ON	9.8
0.771000	31.27	---	56.00	24.73	1000.	9.000	L1	ON	9.8
0.843000	30.06	---	56.00	25.94	1000.	9.000	L1	ON	9.8
0.843000	---	22.39	46.00	23.61	1000.	9.000	L1	ON	9.8
1.410000	31.64	---	56.00	24.36	1000.	9.000	L1	ON	9.8
1.432500	---	23.93	46.00	22.07	1000.	9.000	L1	ON	9.8
2.386500	---	21.22	46.00	24.78	1000.	9.000	L1	ON	9.9
3.925500	---	19.92	46.00	26.08	1000.	9.000	L1	ON	9.9

Tested by: 
20180116
Reviewed by: _____

C mode with adapter 2#

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

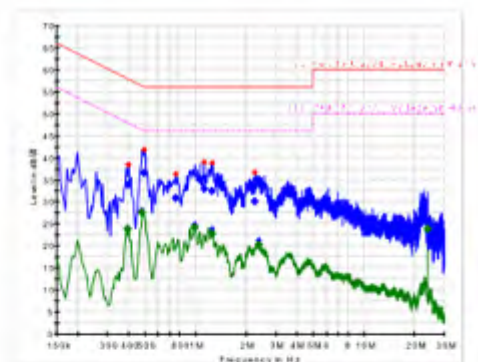
EMC Test Record (EMISSION)

Test Information

Manufacturer:
Test Item:
Identification: MBP845CONNECTPU/ MBP855CONNECTPU
Test Standard: FCC Part 15
Test Detail: Conducted Emission
Operation Mode: On(with AMIGO's adaptor)
Climate Condition: 21 °C; 52 %RH; 101 kPa.
Test Voltage/ Freq.: AC 120 V/ 60 Hz
Port / Line: AC Mains(L1+N)
Receipt No.: 174077665/164109922
Report No.: /
Result: Pass
Comment: /

Hardware Setup: 1phase LISN ENV216 to ESCI 3
Level Unit: dBμV

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCI 3



Final Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.397500	---	23.75	47.91	24.15	1000.	9.000	L1	ON	9.8
0.402000	33.89	---	57.81	23.92	1000.	9.000	L1	ON	9.8
0.483000	---	27.57	46.29	18.72	1000.	9.000	L1	ON	9.7
0.496500	36.54	---	56.06	19.52	1000.	9.000	L1	ON	9.7
0.766500	30.88	---	56.00	25.12	1000.	9.000	L1	ON	9.8
0.991500	---	24.13	46.00	21.87	1000.	9.000	L1	ON	9.8
1.126500	33.00	---	56.00	23.00	1000.	9.000	L1	ON	9.8
1.261500	32.43	---	56.00	23.57	1000.	9.000	L1	ON	9.8
1.261500	---	22.79	46.00	23.21	1000.	9.000	L1	ON	9.8
2.256000	30.10	---	56.00	25.90	1000.	9.000	L1	ON	9.8
2.382000	---	20.17	46.00	25.83	1000.	9.000	L1	ON	9.9
24.004500	---	23.88	50.00	26.12	1000.	9.000	L1	ON	10.9

Tested by:

Jacky Chen

Reviewed by: _____