

Prüfbericht-Nr.: Test Report No.:	17056242 00)1	Auftrags-Nr. Order No.:	164051548	Seite 1 von 6 Page 1 of 6
Kunden-Referenz-Nr.: Client Reference No.:	N/A		Auftragsdatu Order date:	ım: 10.12.2015	
Auftraggeber: Client:		ewmen Electroni pad, Lin Village,		Co., LTD Dongguan, Guangdo	ong, China
Prüfgegenstand: Test item:	Dongle				
Bezeichnung / Typ-Nr. Identification / Type No.					
Auftrags-Inhalt: Order content:	FCC/IC Certi	fication			
Prüfgrundlage: Test specification:	CFR47 FCC Pa	t 15: Subpart C Sect t 15: Subpart C Sect 4 November 2014 5 March 2015	tion 15.209	CFR47 FCC Part 15: Sub RSS-210 Issue 8 Decem FCC KDB Publication 44	ber 2010
Wareneingangsdatum: Date of receipt:	20.12.2015				
Prüfmuster-Nr.: Test sample No.:	A000293406	-003			
Prüfzeitraum: Testing period:	24.12.2015 -	18.01.2016			
Ort der Prüfung: Place of testing:	Accurate Tec	hnology Co., Ltd			
Prüflaboratorium: Testing laboratory:	TÜV Rheinlar	nd (Shenzhen) C	o., Ltd.		
Prüfergebnis*: Test result*:	Pass				
geprüft von / tested by:	1	In	kontrolliert v	on I reviewed by:	in s
	Senior Project E	gineer	05.02.2016	Sam Lin/Technical Ce	erticier
Datum Name / Stell Date Name / Posit	# / # / # / # / # / # / # / # / # / # /	Unterschrift Signature		Name / Stellung Name / Position	Unterschrift
Sonstiges / Other:		- Minner	2010	ranio (1 Gallo)	Signature
Zustand des Prüfgegen Condition of the test item		nlieferung:		llständig und unbeso plete and undamage	
Legende: 1 = sehr gut	2 = gut	3 = befriedigend	ht o a D-M	4 = ausreichend	5 = mange!haft
P(ass) = entspricht o. Legend: 1 = very good P(ass) = passed a.m.	2 = good	3 = satisfactory	ht o.g. Prüfgrundlage(r	n) N/A = nicht anwendbar 4 = sufficient	N/T = nicht getestet 5 = poor

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 Prüfzelchens.

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.



Products

 Prüfbericht - Nr.:
 17056242 001
 Seite 2 von 63

 Test Report No.
 Page 2 of 63

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 20DB BANDWIDTH AND 99% BANDWIDTH

RESULT: Pass

5.1.3 FUNDAMENTAL & HARMONICS RADIATED EMISSION

RESULT: Pass

5.1.1 RADIATED EMISSIONS OUTSIDE OF THE BAND

RESULT: Pass

5.1.2 CONDUCTED EMISSIONS

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

Products

5.1

6.

6.1

7.

8.

9.

5.1.1

5.1.2 5.1.3

5.1.1

5.1.2

6.1.1

 Prüfbericht - Nr.:
 17056242 001
 Seite 3 von 63

 Test Report No.
 Page 3 of 63

Contents 1. GENERAL REMARKS4 COMPLEMENTARY MATERIALS4 1.1 2. Test Sites4 2.1 TEST FACILITIES4 2.2 2.3 2.4 CALIBRATION6 2.5 2.6 LOCATION OF ORIGINAL DATA......6 2.7 3. GENERAL PRODUCT INFORMATION7 3.1 RATINGS AND SYSTEM DETAILS7 3.2 3.3 3.4 SUBMITTED DOCUMENTS8 3.5 4. PRINCIPLE OF CONFIGURATION SELECTION......9 4.1 4.2 TEST OPERATION AND TEST SOFTWARE9 4.3 4.4 COUNTERMEASURES TO ACHIEVE EMC COMPLIANCE......9 4.5 TEST SETUP DIAGRAM10 5.

TRANSMITTER REQUIREMENT & TEST SUITES12

SAFETY HUMAN EXPOSURE......60

PHOTOGRAPHS OF THE TEST SET-UP61

LIST OF TABLES63

Produkte Products

 Prüfbericht - Nr.:
 17056242 001
 Seite 4 von 63

 Test Report No.
 Page 4 of 63

1. General Remarks

1.1 Complementary Materials

None.

2. Test Sites

2.1 Test Facilities

Accurate Technology Co., Ltd.

(FCC Registration No.: 752051)

(Test site Industry Canada No.: 5077A-2)

F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan Shenzhen, P.R. China

The tests at the test site have been conducted under the supervision of a TÜV engineer.





Prüfbericht - Nr.: 17056242 001

Test Report No.

Seite 5 von 63
Page 5 of 63

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Туре	S/N	Calibrated until
Transmitter spurious emissions	3			
Spectrum Analyzer	Rohde & Schwarz	FSV40	101495	2016-01-09
Test Receiver	Rohde & Schwarz	ESCS30	100307	2016-01-09
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	2016-01-14
Loop Antenna	Schwarzbeck	FMZB1516	1516131	2016-01-14
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	2016-01-14
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	2016-01-14
RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	2016-01-09
Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	2016-01-09
50 Coaxial Switch	Anritsu Corp	MP59B	620050647 4	2016-01-09
RF Coaxial Cable	SUHNER	N-3m	No.8	2016-01-09
RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	2016-01-09
RF Coaxial Cable	SUHNER	N-6m	No.10	2016-01-09
RF Coaxial Cable	RESENBERGER	N-12m	No.11	2016-01-09
RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	2016-01-09
Radio Spectrum Test				
Spectrum Analyzer	Rohde & Schwarz	FSV40	101495	2016-01-09
Vector Signal Generator	Rohde & Schwarz	SMBV100A	260434	2016-01-09
Signal Generator	Rohde & Schwarz	SMB100A	108362	2016-01-09
Open Switch and Control Unit	Rohde & Schwarz	OSP120 + OSP-B157	101244 + 100866	2016-01-09
Conducted Emission				
Test Receiver	Rohde & Schwarz		100307	2016-01-09
L.I.S.N.	Schwarzbeck	NLSK8126	8126431	2016-01-09
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	2016-01-09
50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	2016-01-09
Voltage Probe	Schwarzbeck	TK9416	N/A	2016-01-09
RF Current Probe	Rohde & Schwarz	EZ-17	100048	2016-01-09
8-Wire Impedance Stabilisation Network	Schwarzbeck	CAT5 8158	8158-0035	2016-01-09
RF Coaxial Cable	Suhner	N-2m	No.2	2016-01-09
RF Coaxial Cable	Suhner	N-2m	No.3	2016-01-09
RF Coaxial Cable	Suhner	N-2m	No.14	2016-01-09



 Prüfbericht - Nr.:
 17056242 001
 Seite 6 von 63

 Test Report No.
 Page 6 of 63

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, 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 basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Spectrum	< ± 0.60 dB
Radiated emission of transmitter, valid up to 26.5 GHz	< ± 4.42 dB
Conducted Emission	< ± 2.23 dB
Radiated Emission	< ± 4.42 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

Accurate Technology Co., Ltd. test facility located at F1, Bldg. A, Changyuan New Material Port Keyuan Rd., Science & Industry Park, Nanshan, Shenzhen, P.R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

Products

 Prüfbericht - Nr.:
 17056242 001
 Seite 7 von 63

 Test Report No.
 Page 7 of 63

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a USB dongle used with a 2.4GHz wireless presenter. It operates at 2.4GHz ISM frequency band.

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment	Dongle
Type Designation	MX-133
FCC ID	V4P-MX133
IC	12487A-MX133
Operating Frequency	2402 – 2476MHz
Channel separation	1MHz
Number of Channel	75
Extreme Temperature Range	-15~+40°C
Operation Voltage	DC 5V (via USB port)
Modulation	GFSK
Antenna Gain	-2dBi

3.3 Independent Operation Modes

The basic operation modes are:

- A. On
 - 1. Transmitting
 - 2. Receiving
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.



Products

17056242 001 Prüfbericht - Nr.: Seite 8 von 63 Page 8 of 63 Test Report No.

3.5 Submitted Documents

- Bill of Material

PCB LayoutPhoto Document

- Circuit Diagram

- Instruction Manual

- Rating Label



 Prüfbericht - Nr.:
 17056242 001
 Seite 9 von 63

 Test Report No.
 Page 9 of 63

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power 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 testing were performed according to the procedures in ANSI C63.10: 2013.

4.3 Special Accessories and Auxiliary Equipment

The EUT was tested together with the following accessories:

Description	Manufacturer	Part No.	S/N		
Notebook	Lenovo	X240	N/A		
Printer	HP	HP laserjet 1015	CNFG030424		

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.



 Prüfbericht - Nr.:
 17056242 001
 Seite 10 von 63

 Test Report No.
 Page 10 of 63

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test for below 1GHz

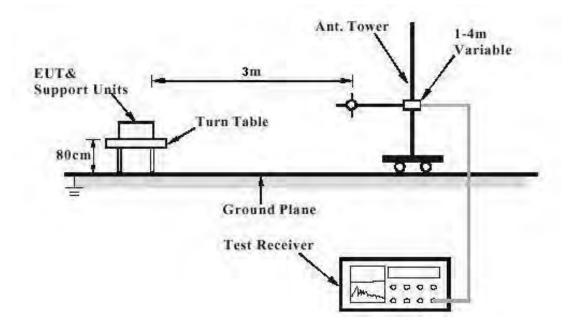
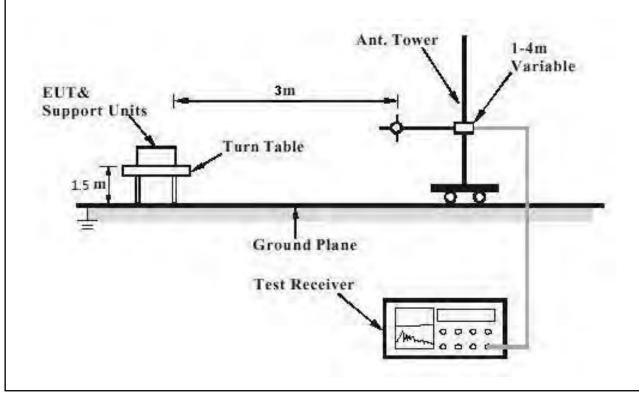


Diagram of Measurement Configuration for Radiation Test for above 1GHz





Products

Prüfbericht - Nr.: 17056242 001

Seite 11 von 63Page 11 of 63

Test Report No.

Diagram of Measurement Equipment Configuration for Conduction Measurement

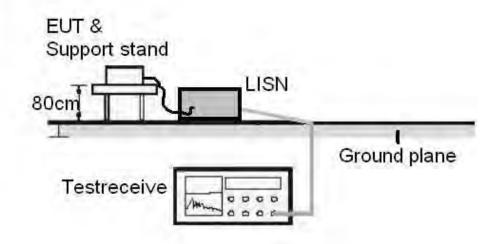
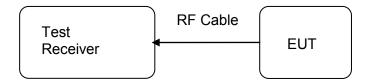


Diagram of Measurement Equipment Configuration for Transmitter Measurement





 Prüfbericht - Nr.:
 17056242 001
 Seite 12 von 63

 Test Report No.
 Page 12 of 63

5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT: Pass

Test standard : Part 15.203

RSS-Gen 8.3

Limit : the use of antennas with directional gains that do

not exceed 6dBi

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is -2dBi, therefore the EUT is considered sufficient to comply with the provision.



Products

17056242 001 Seite 13 von 63 Prüfbericht - Nr.: Page 13 of 63 Test Report No.

5.1.2 20dB Bandwidth and 99% Bandwidth

RESULT: Pass

Date of testing 2016-01-18 Test standard FCC Part 15.249 RSS-210 A8.1(a)

ANSI C63.10: 2013 Shielded room

Test setup

Basic standard

Kind of test site

Low/ Middle/ High

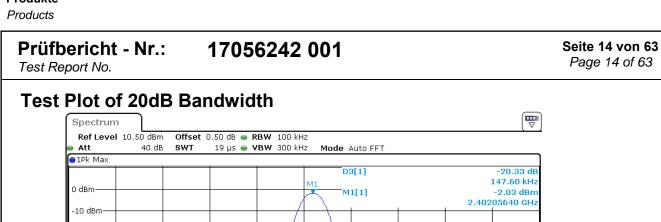
Operation Mode :
Ambient temperature :
Relative humidity A.1 **21**℃ 60% Atmospheric pressure : 101kPa

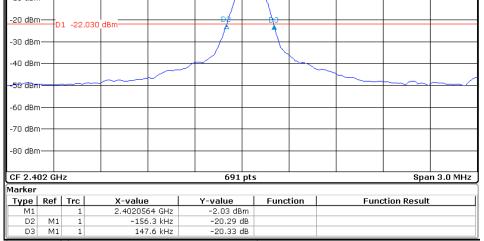
Table 4: Test result of 20dB & 99% Bandwidth

Channel	Channel Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)		
Low Channel	2402	303.9	251.8		
Mid Channel	2441	329.9	272.1		
High Channel	2476	329.9	276.4		

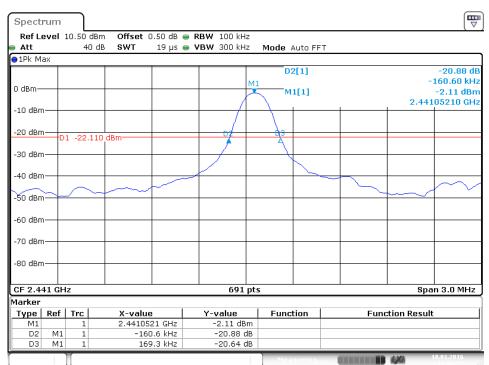
For details refer to following test plot.







Date: 18.JAN.2016 17:44:15



Date: 18.JAN.2016 17:46:28



Seite 15 von 63

Page 15 of 63

Produkte

Products

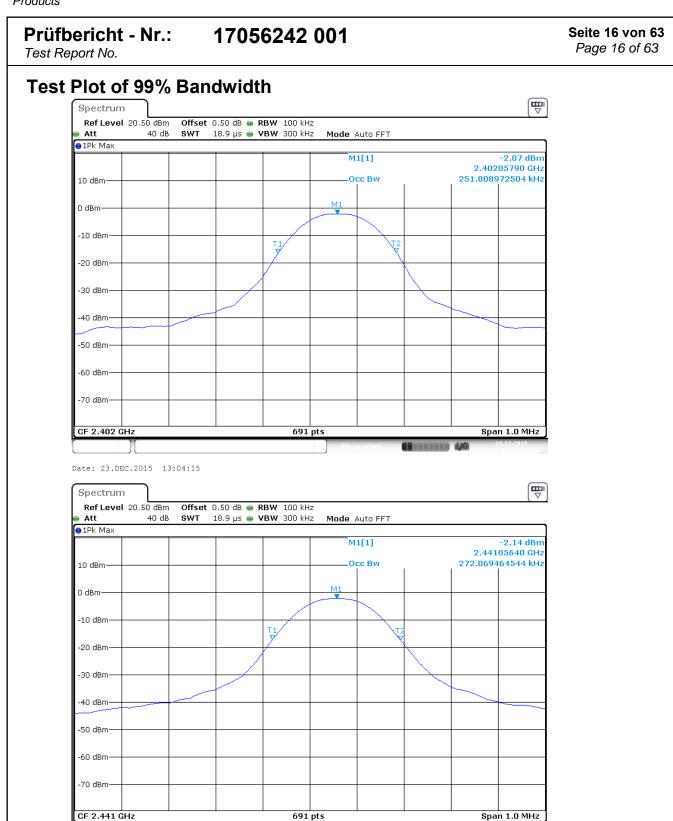
17056242 001 Prüfbericht - Nr.: Test Report No. Spectrum Ref Level 10.50 dBm Offset 0.50 dB • RBW 100 kHz • Att 40 dB SWT 19 μs 🎃 **VBW** 300 kHz Mode Auto FFT ●1Pk Max -20.70 dB 169.30 kHz D3[1] -2.23 dBm 2.47605210 GHz M1[1] -10 dBm--20 dBm-D1 -22.230 dBm -30 dBm--40 dBm--50 dBm -60 dBm--70 dBm--80 dBm-Span 3.0 MHz 691 pts CF 2.476 GHz Type | Ref | Trc | X-value Y-value Function **Function Result** 2.4760521 GHz -160.6 kHz 169.3 kHz -2.23 dBm -20.52 dB -20.70 dB D2 M1 D3 M1

Date: 18.JAN.2016 17:48:18



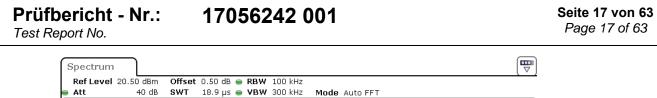
Date: 23.DEC.2015 13:14:19

Products





Products





Date: 23.DEC.2015 13:15:20



Products

 Prüfbericht - Nr.:
 17056242 001
 Seite 18 von 63

 Test Report No.
 Page 18 of 63

5.1.3 Fundamental & Harmonics Radiated Emission

RESULT: Pass

Date of testing : 2015-12-24

Test standard : FCC part 15.249(a)

RSS-210 Clause A2.9

Basic standard : ANSI C63.10: 2013 Limits : FCC part 15.249(a)

Kind of test site : 3m Semi-Anechoic Chamber & Anechoic Chamber

Test setup

Test channel : Low/ Middle/ High

Table 5: Polarization of the measurement for the larger power level channel 2402MHz: Horizontal

		Fundaı	mental	2 nd Harmonic			
Test co	nditions	Frequ	iency	Frequency			
		2402	MHz	4804MHz			
	Unit	(dBµV/m)	(mV/m)	(dBµV/m)	(µV/m)		
T _{nom} (25°C)	Horizontal	89.07	28.41	39.92	99.08		
	Vertical	82.78	13.77	39.26	91.83		
Liı	mit	94	50	54	500		

The final measurement for frequencies below 1000MHz is performed with Quasi Peak detector; the final measurement for frequencies above 1000MHz is performed with Average detector.

The worst case was shown in above Table 5.

Disturbance other than those mentioned are small or not detectable.

For details refer to following test plot.



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 19 von 63 Page 19 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

LGW2015 #2228

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2402MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:

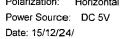
4

4804.031

40.22

-0.30

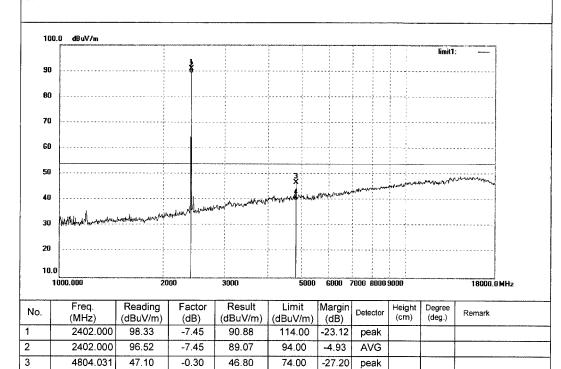
39.92



Time:

Engineer Signature: PEI

Distance: 3m



54.00

-14.08

AVG



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 20 von 63Page 20 of 63

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Polarization:

Date: 15/12/24/

Distance: 3m

Time:

Power Source: DC 5V

Engineer Signature: PE!

Vertical

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: LGW2015 #2229

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

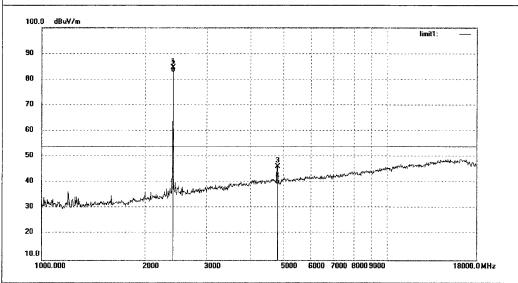
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2402MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



ı												
	No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
	1	2402.000	92.10	-7.45	84.65	114.00	-29.35	peak				
	2	2402.000	90.23	-7.45	82.78	94.00	-11.22	AVG				
	3	4804.026	46.49	-0.30	46.19	74.00	-27.81	peak				
	4	4804.026	39.56	-0.30	39.26	54.00	-14.74	AVG				



Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 21 von 63 Page 21 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

LGW2015 #2232

Standard: FCC Class B 3M Radiated Test item: Radiation Test

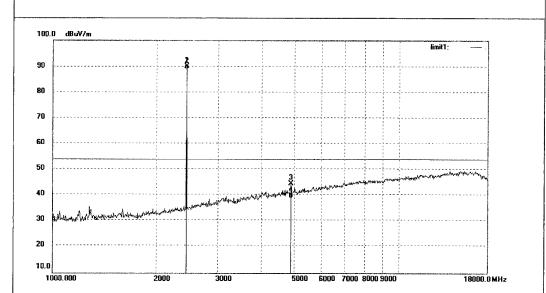
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle TX 2441MHz Mode:

MX-133 Model:

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	97.27	-7.35	89.92	114.00	-24.08	peak			
2	2441.000	96.25	-7.35	88.90	94.00	-5.10	AVG			
3	4882.024	44.45	0.14	44.59	74.00	-29.41	peak			
4	4882.024	38.67	0.14	38.81	54.00	-15.19	AVG			



Products

Test Report No.

Prüfbericht - Nr.: 17

17056242 001

Seite 22 von 63Page 22 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: LGW2015 #2233 Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2441MHz

MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:

4

4882.028

38.86

0.14

39.00

54.00

-15.00

AVG

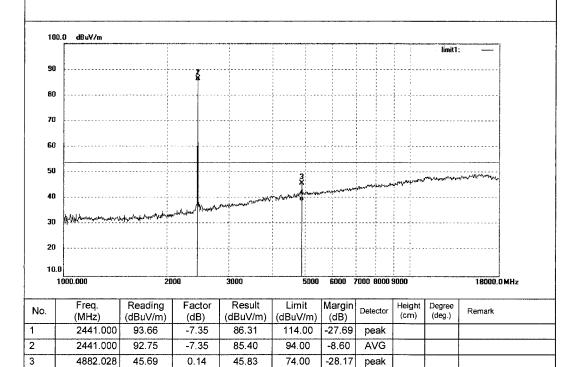
Model:

Polarization: Vertical
Power Source: DC 5V
Date: 15/12/24/

Time: Engineer Signature: PEI

Distance: 3m

Co. LTD





Products

Prüfbericht - Nr.: 17056242 001

Test Report No.

Seite 23 von 63Page 23 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: PEI

Distance: 3m

Power Source: DC 5V Date: 15/12/24/

Time:

Job No.: LGW2015 #2231 Standard: FCC Class B 3M Radiated

Standard. 1 CC Class B Sivi Radiated

Test item: Radiation Test

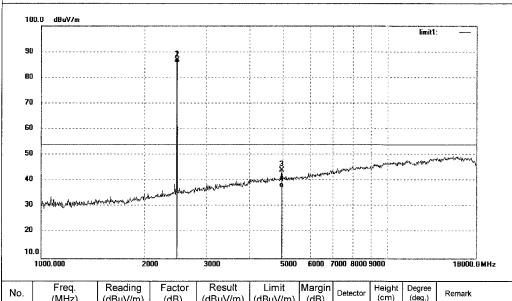
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2476MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2476.000	94.30	-7.36	86.94	114.00	-27.06	peak			
2	2476.000	93.15	-7.36	85.79	94.00	-8.21	AVG			
3	4952.029	43.64	0.48	44.12	74.00	-29.88	peak			
4	4952.029	36.78	0.48	37.26	54.00	-16.74	AVG			



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 24 von 63 Page 24 of 63

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

LGW2015 #2230

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

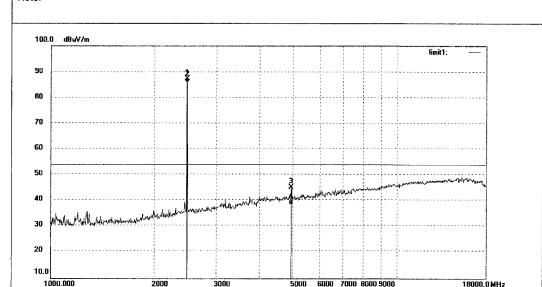
EUT: Dongle Mode:

TX 2476MHz

MX-133 Model:

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



	V										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2476.000	94.54	-7.36	87.18	114.00	-26.82	peak				
2	2476.000	93.23	-7.36	85.87	94.00	-8.13	AVG				
3	4952.023	44.72	0.48	45.20	74.00	-28.80	peak				
4	4952.023	37.89	0.48	38.37	54.00	-15.63	AVG				



Products

17056242 001 Seite 25 von 63 Prüfbericht - Nr.: Page 25 of 63 Test Report No.

5.1.1 Radiated emissions outside of the band

RESULT: Pass

Date of testing 2015-12-24

Test standard FCC Part 15.209(a)

FCC Part 15.249(d)

RSS-210 Clause A2.9(b)

: : : Basic standard ANSI C63.10: 2013 Frequency range 0.009 - 26500MHz* Limits FCC Part 15.209(a)

FCC Part 15.249(d)

Kind of test site : 3m Semi-Anechoic Chamber & Anechoic Chamber

Test Setup

Low/ Middle/ High

Operation mode :
Ambient temperature :
Relative humidity : A.1 **23**℃ Relative humidity : 48% Atmospheric pressure : 101kPa

For details refer to following test plot.



Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 26 von 63 Page 26 of 63

Test Plot of Radiated emissions outside band

ACCURATE TECHNOLOGY CO., LTD

EUT: Dongle M/N:MX-133
Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2402MHz
Test Site: 2# Chamber
Operator: LGWANF
Test exercise: Test Specification: DC 5V

Comment: X Start of Test: 2015-12-24 /

ΙF Transducer

SCAN TABLE: "LFRE Fin"
Short Description: SUB_STD_VTERM2 1.70
Start Stop Step Detector Meas.
Frequency Frequency Width Time
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s Bandw. 200 Hz 9 kHz 1516M 1516M

Level [dBµA/m] 100 80 60 Signature of the state of the s 200k 300k 500k 700k 1M Frequency [Hz] 20k 30k 40k 60k 100k 2M 3M 4M 5M 7M 10M

_____MES D-1224-01_pre _____LIM LRFE-1



Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 27 von 63 Page 27 of 63

ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

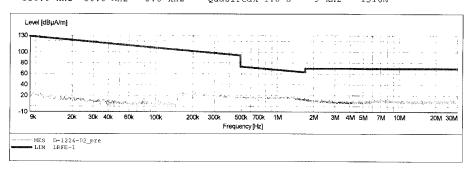
Dongle M/N:MX-133

Donggie M/N:MA-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2402MHz
Test Site: 2# Chamber
Operator: LGWADE Operator: LGWADI Test Specification: DC 5V

Comment: Y
Start of Test: 2015-12-24 /

SCAN TABLE: "LPRE Fin"
Short Description:
Start Stop Step Detector Meas.
Frequency Frequency Width
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s Transducer Bandw. 200 Hz 1516M 9 kHz





Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 28 von 63 Page 28 of 63

ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

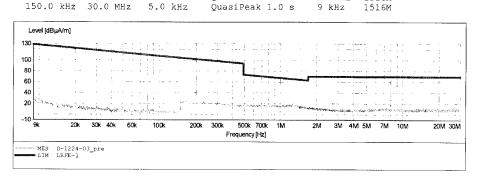
Dongle M/N:MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2402MHz
Test Site: 2# Chamber
Operator: LGWADF
Test Secret

Test Specification: DC 5V Comment: Z
Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"

Short Description: SUB_STD_VTERM2 1.70
Start Stop Step Detector Meas.
Frequency Frequency Width Time
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s Transducer Bandw. 200 Hz 1516M





Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 29 von 63 Page 29 of 63

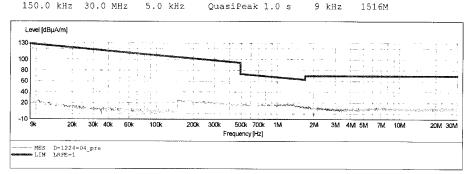
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2441MHz
Test Site: 2# Chamber
Operator: LOWADD Operator: LGWADE Test Specification: DC 5V

Comment: X Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"
Short Description: SUB_STD_VTERM2 1.7
Start Stop Step Detector Meas.
Frequency Frequency Width
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s _SUB_STD_VTERM2 1.70 Detector Meas. ΙF Bandw. 200 Hz 1516M





Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 30 von 63 Page 30 of 63

ACCURATE TECHNOLOGY CO., LTD

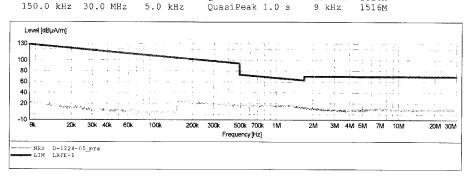
FCC Class B 3m Radiated

Dongle M/N:MX-133

Dongge M/N:MA-133
Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2441MHz
Test Site: 2# Chamber
Operator: LGWADE Operator: LGWADE Test Specification: DC 5V

Comment: Y
Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"
Short Description:
Start Stop Step Detector Meas.
Frequency Frequency Width
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s Transducer Bandw. 200 Hz 1516M





Products

Prüfbericht - Nr.:

17056242 001

Seite 31 von 63 Page 31 of 63

Test Report No.

ACCURATE TECHNOLOGY CO., LTD

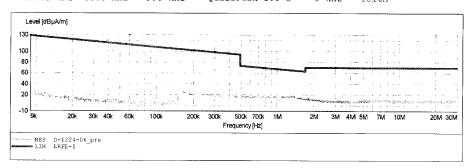
FCC Class B 3m Radiated

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2441MHz
Test Site: 2# Chamber
Operator: T.GWADD Test Specification: DC 5V

Comment: Z Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"
Short Description:
Start Stop Step _SUB_STD_VTERM2 1.70

Short Description: Start Stop Step Step Detector Meas. Frequency Frequency Width 150.0 kHz 150.0 kHz 150.0 kHz 5.0 kHz QuasiPeak 1.0 s QuasiPeak 1.0 s ΙF Bandw. 200 Hz 9 kHz 1516M





Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 32 von 63 Page 32 of 63

ACCURATE TECHNOLOGY CO., LTD

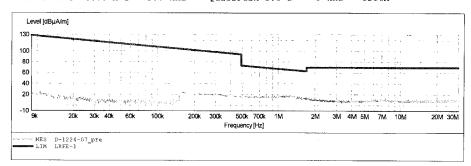
FCC Class B 3m Radiated

Dongle M/N:MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2476MHz
Test Site: 2# Chamber
Operator: LGWADE
Test Specification: DC 5V
Comment: X
Start C 7

Comment: X Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"
Short Description:
Start Stop Step Detector Meas.
Frequency Frequency Width
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s IF Transducer Bandw. 200 Hz 1516M 9 kHz





Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 33 von 63 Page 33 of 63

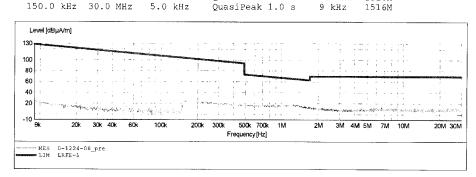
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

Dongle M/N:MX-133
Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD
Operating Condition: TX 2476MHz
Test Site: 2# Chamber
Operator: LGWADF
Test Specific Operator: LGWADI Test Specification: DC 5V

Comment: Y
Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"
Short Description:
Start Stop Step _SUB_STD_VTERM2 1.70 Detector Meas. Transducer Bandw. 200 Hz 1516M





Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 34 von 63 Page 34 of 63

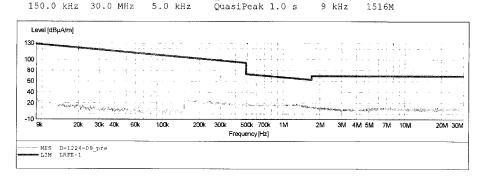
ACCURATE TECHNOLOGY CO., LTD

FCC Class B 3m Radiated

Manufacturer: Dongquan Newmen Electronics Technology Co.,LTD Operating Condition: TX 2476MHz
Test Site: 2# Chamber
Operator: LGWADF Operator: LGWADE Test Specification: DC 5V

Comment: Z
Start of Test: 2015-12-24 /

SCAN TABLE: "LFRE Fin"
Short Description:
Start Stop Step Detector Meas.
Frequency Frequency Width
9.0 kHz 150.0 kHz 100.0 Hz QuasiPeak 1.0 s
150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s _SUB_STD_VTERM2 1.70 Detector Meas. IF Bandw. 200 Hz 1516M





Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 35 von 63 *Page 35 of 63*



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290

Fax:+86-0755-26503290

Polarization: Horizontal

Engineer Signature: PEI

Power Source: DC 5V

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2222 Standard: FCC Class B 3M Radiated

Test item: Radiation Test

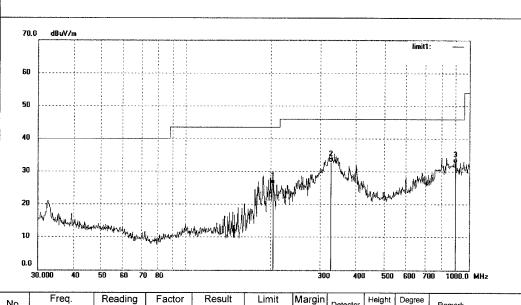
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2402MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	204.2375	38.21	-12.13	26.08	43.50	-17.42	QP			
2	325.5957	41.28	-8.51	32.77	46.00	-13.23	QP			
3	896.9963	31.32	1.27	32.59	46.00	-13.41	QP			



Products

Prüfbericht - Nr.:

17056242 001

Seite 36 von 63 *Page 36 of 63*

Test Report No.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2223 Standard: FCC Class B 3M Radiated

Test item: Radiation Test

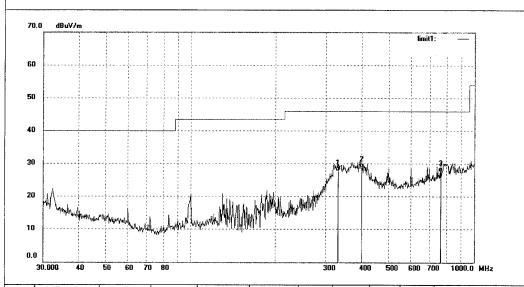
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2402MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	331.3546	36.08	-8.32	27.76	46.00	-18.24	QP			
2	400.4318	35.53	-6.81	28.72	46.00	-17.28	QP			
3	763.3757	28.39	-0.81	27.58	46.00	-18.42	QP			



Products

Prüfbericht - Nr.:

17056242 001

Seite 37 von 63 Page 37 of 63

Test Report No.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

LGW2015 #2225

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle TX 2441MHz Mode:

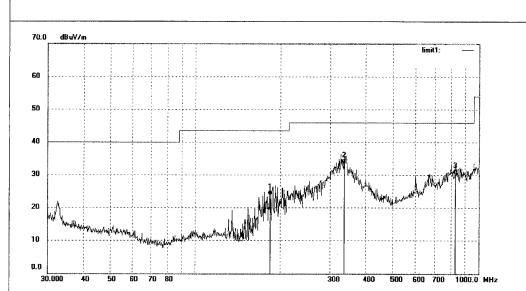
Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Polarization: Horizontal Power Source: DC 5V Date: 15/12/24/ Time:

Engineer Signature: PEI

Distance: 3m



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	184.4898	36.38	-12.56	23.82	43.50	-19.68	QP			
2	334.8589	41.69	-8.26	33.43	46.00	-12.57	QP			
3	827.4932	29.88	0.48	30.36	46.00	-15.64	QP			



Products

Prüfbericht - Nr.:

17056242 001

Seite 38 von 63 Page 38 of 63

Test Report No.

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd,

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Science & Industry Park, Nanshan Shenzhen, P.R. China

Polarization: Vertical Power Source: DC 5V

Date: 15/12/24/

Time:

Engineer Signature: PEI

Distance: 3m

LGW2015 #2224 Standard: FCC Class B 3M Radiated

Test item: Radiation Test Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode:

TX 2441MHz Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:

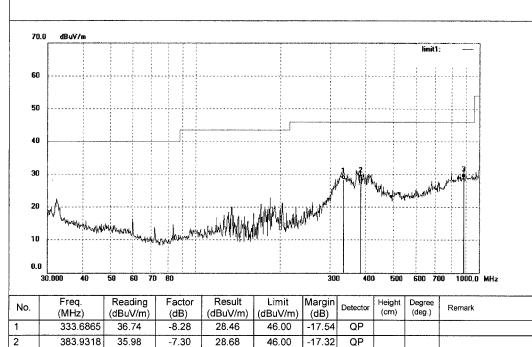
3

881.4067

27.75

1.16

28.91



46.00

-17.09

QP



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 39 von 63 Page 39 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 2# Chamber Tel:+86-0755-26503290

Fax:+86-0755-26503396

LGW2015 #2226

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2476MHz

Model:

MX-133

Power Source: DC 5V Date: 15/12/24/ Time:

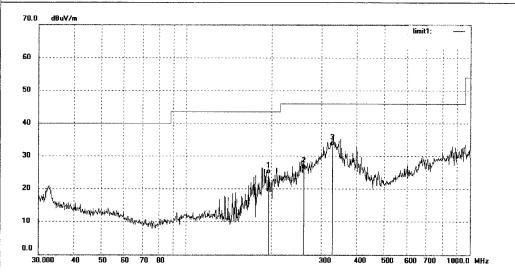
Polarization: Horizontal

Engineer Signature: PEI

Distance: 3m

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD





No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	195.8220	36.80	-12.26	24.54	43.50	-18.96	QP			
2	260.1444	36.76	-10.63	26.13	46.00	-19.87	QP			
3	327.8872	41.64	-8.43	33.21	46.00	-12.79	QP			



Products

Prüfbericht - Nr.:

17056242 001

Seite 40 von 63Page 40 of 63

Test Report No.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Polarization:

Date: 15/12/24/

Distance: 3m

QP

QP

QP

-18.41

-17.81

-18.23

Time:

Power Source: DC 5V

Engineer Signature:

Vertical

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: LGW2015 #2227 Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2476MHz

Model: MX-133

330.1949

372.0045

410.3824

35.93

35.67

34.32

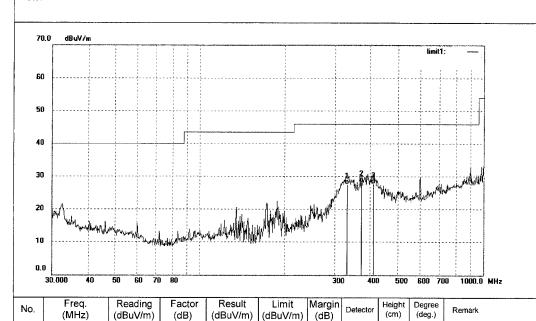
1

2

3

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



46.00

46.00

46.00

27.59

28.19

27.77

-8.34

-7.48

-6.55



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 41 von 63Page 41 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: PEI

Power Source: DC 5V

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2228 Standard: FCC Class B 3M Radiated

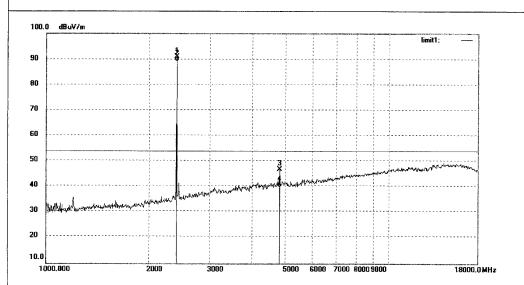
Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2402MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	98.33	-7.45	90.88	114.00	-23.12	peak			
2	2402.000	96.52	-7.45	89.07	94.00	-4.93	AVG			
3	4804.031	47.10	-0.30	46.80	74.00	-27.20	peak			
4	4804.031	40.22	-0.30	39.92	54.00	-14.08	AVG			



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 42 von 63Page 42 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Polarization:

Date: 15/12/24/

Distance: 3m

Time:

Power Source: DC 5V

Engineer Signature: PEI

Vertical

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: LGW2015 #2229

Standard: FCC Class B 3M Radiated

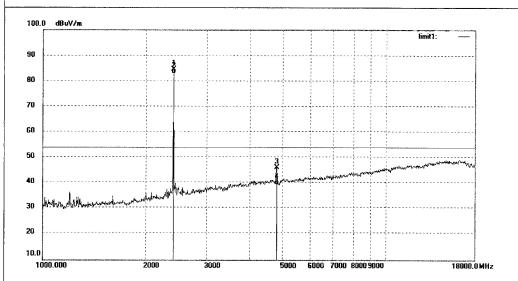
Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2402MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2402.000	92.10	-7.45	84.65	114.00	-29.35	peak			
2	2402.000	90.23	-7.45	82.78	94.00	-11.22	AVG			
3	4804.026	46.49	-0.30	46.19	74.00	-27.81	peak			
4	4804.026	39.56	-0.30	39.26	54.00	-14.74	AVG			



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 43 von 63 *Page 43 of 63*

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: PEI

Power Source: DC 5V

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2231

Standard: FCC Class B 3M Radiated

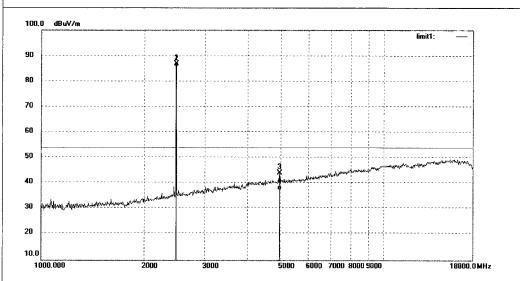
Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2476MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2476.000	94.30	-7.36	86.94	114.00	-27.06	peak			
2	2476.000	93.15	-7.36	85.79	94.00	-8.21	AVG			
3	4952.029	43.64	0.48	44.12	74.00	-29.88	peak			
4	4952.029	36.78	0.48	37.26	54.00	-16.74	AVG			



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 44 von 63Page 44 of 63

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2230

Standard: FCC Class B 3M Radiated

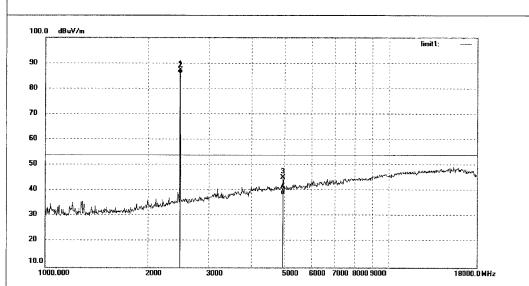
Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 2476MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2476.000	94.54	-7.36	87.18	114.00	-26.82	peak				
2	2476.000	93.23	-7.36	85.87	94.00	-8.13	AVG				
3	4952.023	44.72	0.48	45.20	74.00	-28.80	peak				
4	4952.023	37.89	0.48	38.37	54.00	-15.63	AVG				



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 45 von 63 *Page 45 of 63*

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: PEI

Power Source: DC 5V

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2232

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

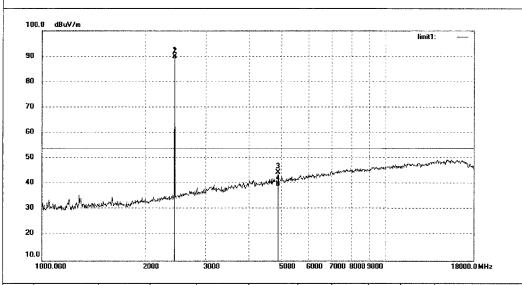
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2441MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	97.27	-7.35	89.92	114.00	-24.08	peak			
2	2441.000	96.25	-7.35	88.90	94.00	-5.10	AVG			
3	4882.024	44.45	0.14	44.59	74.00	-29.41	peak			
4	4882.024	38.67	0.14	38.81	54.00	-15.19	AVG			



Products

Prüfbericht - Nr.:

17056242 001

Seite 46 von 63 *Page 46 of 63*

Test Report No.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2233

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

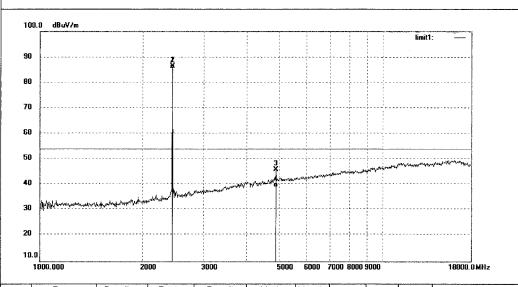
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2441MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



L										
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2441.000	93.66	-7.35	86.31	114.00	-27.69	peak			
2	2441.000	92.75	-7.35	85.40	94.00	-8.60	AVG			
3	4882.028	45.69	0.14	45.83	74.00	-28.17	peak			
4	4882.028	38.86	0.14	39.00	54.00	-15.00	AVG			



Products

Prüfbericht - Nr.:

17056242 001

Seite 47 von 63 Page 47 of 63

Test Report No.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Horizontal

Polarization:

Date: 15/12/24/

Distance: 3m

Time:

Power Source: DC 5V

Engineer Signature: PEI

LGW2015 #2247

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2476MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

34.53

23.00

26143.685

16.50

16.50

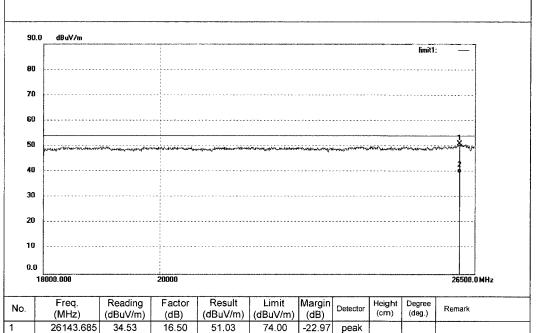
51.03

39.50

Note:

1

2



74.00

54.00

-22.97

-14.50

peak

AVG



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 48 von 63 *Page 48 of 63*



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V Date: 15/12/24/

Engineer Signature: PEI

Distance: 3m

Time:

Job No.: LGW2015 #2246

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2476MHz

26234.849

26234.849

2

33.61

23.07

17.08

17.08

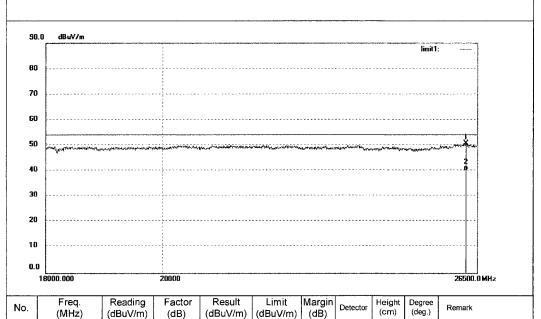
50.69

40.15

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:



74.00

54.00

-23.31

-13.85

peak

AVG



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 49 von 63 Page 49 of 63

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Site: 2# Chamber Tel:+86-0755-26503290

Fax:+86-0755-26503396 Polarization: Horizontal

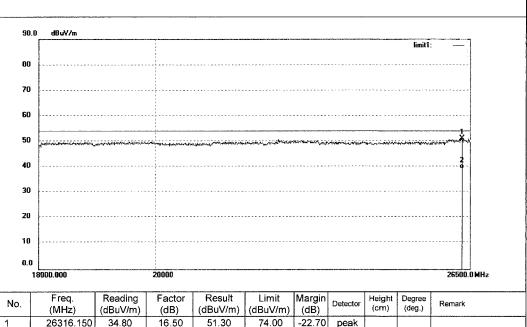
LGW2015 #2248 Standard: FCC Class B 3M Radiated Power Source: DC 5V Date: 15/12/24/

Test item: Radiation Test Time:

Temp.(C)/Hum.(%) 23 C / 48 % EUT: Dongle Engineer Signature: PEI

Mode: TX 2441MHz Distance: 3m Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD





Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 50 von 63 *Page 50 of 63*



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China

Site: 2# Chamber

Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2249

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

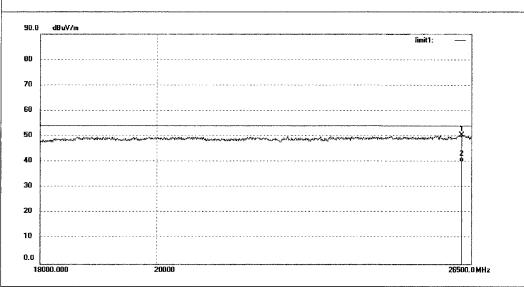
Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2441MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26275.468	33.54	17.05	50.59	74.00	-23.41	peak			
2	26275.468	22.98	17.05	40.03	54.00	-13.97	AVG			



Products

Prüfbericht - Nr.:

17056242 001

Seite 51 von 63 Page 51 of 63

Test Report No.



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China

Polarization:

Date: 15/12/24/

Distance: 3m

Time:

Power Source: DC 5V

Engineer Signature: PEI

Horizontal

Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

LGW2015 #2251

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode:

TX 2402MHz

Model: MX-133

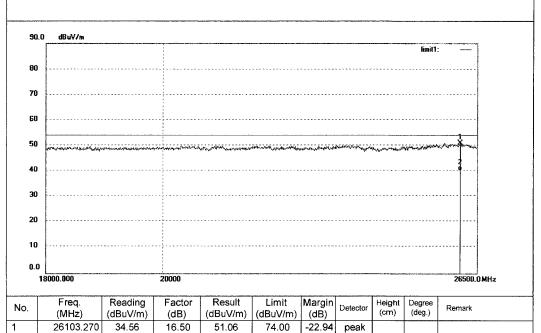
Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD

Note:

2

26103.270

23.58



54.00

-13.92

AVG

40.08

16.50



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 52 von 63

Page 52 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber

Tel:+86-0755-26503290

Fax:+86-0755-26503396

Job No.: LGW2015 #2250

Standard: FCC Class B 3M Radiated

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Mode: Dongle

TX 2402MHz

Model: MX-133

MX-133

Time:

Engineer Signature: PEI

Polarization: Vertical

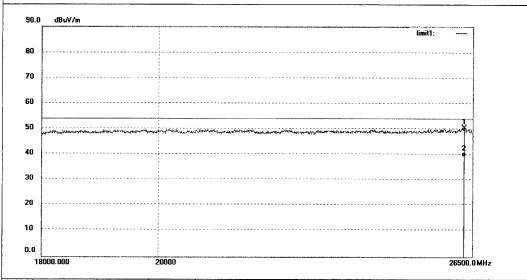
Power Source: DC 5V

Distance: 3m

Date: 15/12/24/

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD





No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)		Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	26305.974	33.49	17.03	50.52	74.00	-23.48	peak			
2	26305.974	22.25	17.03	39.28	54.00	-14.72	AVG			



Products

Prüfbericht - Nr.:

17056242 001

Seite 53 von 63 *Page 53 of 63*

Test Report No.

Test Plot of Frequency Band Edge



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: PEI

Power Source: DC 5V

Date: 15/12/24/

Distance: 3m

Job No.: LGW2015 #2259

Standard: FCC (Band Edge 2.4GHz)

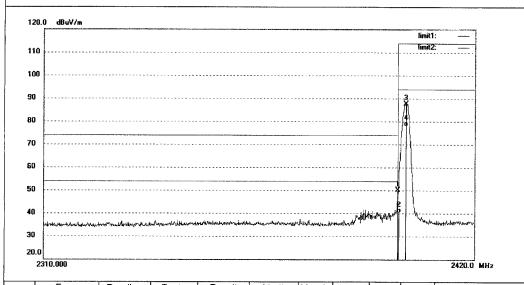
Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle Mode: TX 202MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	57.51	-7.46	50.05	74.00	-23.95	peak			
2	2400.000	47.62	-7.46	40.16	54.00	-13.84	AVG			
3	2402.000	95.15	-7.45	87.70	114.00	-26.30	peak			
4	2402.000	85.35	-7.45	77.90	94.00	-16.10	AVG			



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 54 von 63 Page 54 of 63



ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park, Nanshan Shenzhen, P.R. China Site: 2# Chamber

Tel:+86-0755-26503290 Fax:+86-0755-26503396

Job No.: LGW2015 #2258

Standard: FCC (Band Edge 2.4GHz)

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2402MHz

Model: MX-133

Date: 15/12/24/ Time:

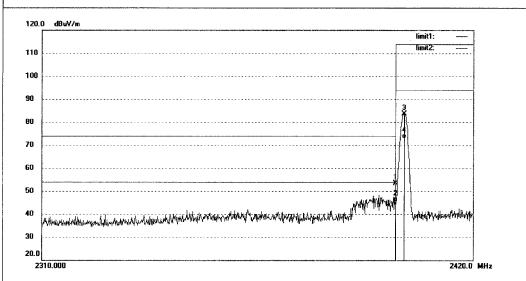
Polarization: Vertical

Power Source: DC 5V

Engineer Signature: PEI

Distance: 3m

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2400.000	60.89	-7.46	53.43	74.00	-20.57	peak			
2	2400.000	52.93	-7.46	45.47	54.00	-8.53	AVG			
3	2402.000	91.09	-7.45	83.64	114.00	-30.36	peak			
4	2402.000	80.23	-7.45	72.78	94.00	-21.22	AVG			



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 55 von 63 *Page 55 of 63*

ATC ®

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Horizontal

Engineer Signature: PEI

Power Source: DC 5V

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2256

Standard: FCC (Band Edge 2.4GHz)

Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT:

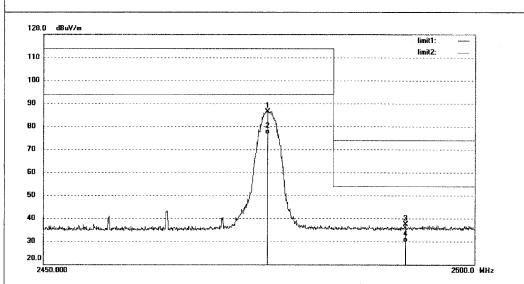
Dongle

Mode:

TX 2476MHz

Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark	
1	2476.000	93.69	-7.36	86.33	114.00	-27.67	peak				
2	2476.000	83.89	-7.36	76.53	94.00	-17.47	AVG				
3	2492.000	44.87	-7.39	37.48	74.00	-36.52	peak				
4	2492.000	36.91	-7.39	29.52	54.00	-24.48	AVG				



Products

Prüfbericht - Nr.:

Test Report No.

17056242 001

Seite 56 von 63 *Page 56 of 63*

ACCURATE TECHNOLOGY CO., LTD.

F1,Bldg,A,Changyuan New Material Port Keyuan Rd, Science & Industry Park,Nanshan Shenzhen,P.R.China Site: 2# Chamber Tel:+86-0755-26503290 Fax:+86-0755-26503396

Polarization: Vertical

Power Source: DC 5V

Engineer Signature: PEI

Date: 15/12/24/

Distance: 3m

Time:

Job No.: LGW2015 #2257

Standard: FCC (Band Edge 2.4GHz)

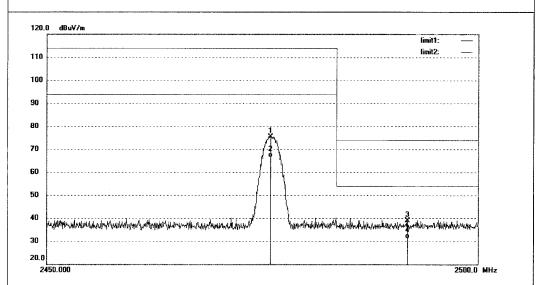
Test item: Radiation Test

Temp.(C)/Hum.(%) 23 C / 48 %

EUT: Dongle

Mode: TX 2476MHz Model: MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co.,LTD



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	2476.000	82.73	-7.36	75.37	114.00	-38.63	peak			
2	2476.000	73.85	-7.36	66.49	94.00	-27.51	AVG			
3	2491.850	46.22	-7.39	38.83	74.00	-35.17	peak			
4	2491.850	38.43	-7.39	31.04	54.00	-22.96	AVG			



Products

17056242 001 Seite 57 von 63 Prüfbericht - Nr.: Page 57 of 63 Test Report No.

5.1.2 Conducted emissions

RESULT: Pass

Date of testing 2015-12-24 Test standard FCC Part 15.207

RSS-Gen Clause 8.8

Basic standard ANSI C63.10: 2013 Frequency range 0.15 - 30MHzFCC Part 15.207 Limits

Table 3 of RSS-Gen

Kind of test site : Shield room

Test setup

Operation Mode : Earthing AC 120V, 60Hz

Connected

Ambient temperature : **25**℃ Relative humidity 52% Atmospheric pressure : 101kPa

For details refer to following test plot.



Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 58 von 63 Page 58 of 63

ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

EUT: Dongle M/N:MX-133

Manufacturer: Dongguan Newmen Electronics Technology Co., LTD

Operating Condition: Transmitting 1#Shielding Room Test Site:

Operator: LGWADE

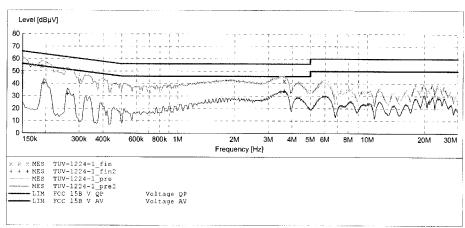
Test Specification: L 120V/60Hz Comment: Start of Test: Mains Port 12/24/2015 /

SCAN TABLE: "V 9K-30MHz fin"
Short Description: __SUE
Start Stop Step Frequency Frequency Width
9.0 kHz 150.0 kHz 100.0 Hz C 30MHz fin."

_SUB_STD_VTERM2 1.70
Step Detector Meas.
Width Time IF Transducer Bandw.

QuasiPeak 1.0 s 200 Hz NSLK8126 2008 Average 150.0 kHz 30.0 MHz 5.0 kHz QuasiPeak 1.0 s 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "TUV-1224-1 fin"

12/24/2015 Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	49.50	10.5	66	16.5	QP	L1	GND
0.190000	54.40	10.5	64	9.6	QP	L1	GND
3.630000	42.30	11.1	56	13.7	QP	L1	GND

MEASUREMENT RESULT: "TUV-1224-1 fin2"

12/24/2015 Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	40.10	10.5	54	13.7	AV	L1	GND
0.260000	31.70	10.6	51	19.7	AV	L1	GND
3.630000	34.00	11.1	46	12.0	AV	L1	GND



Products

17056242 001 Prüfbericht - Nr.:

Test Report No.

Seite 59 von 63 Page 59 of 63

ACCURATE TECHNOLOGY CO., LTD

CONDUCTED EMISSION STANDARD FCC PART 15 B

Dongle M/N:MX-133 EUT:

Manufacturer: Dongguan Newmen Electronics Technology Co., LTD

Operating Condition: Transmitting 1#Shielding Room

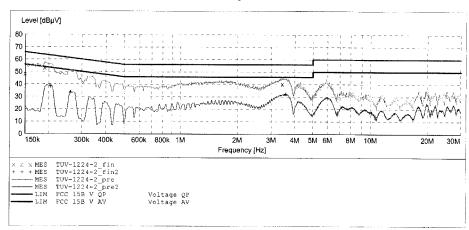
Test Site: Operator:

LGWADE Test Specification: N 120V/60Hz Comment: Start of Test: Mains Port 12/24/2015 /

SCAN TABLE: "V 9K-30MHz fin"
Short Description: _SUE
Start Stop Step Step Detector 1.70

Start Stop Step Frequency Frequency Width 9.0 kHz 150.0 kHz 100.0 Hz Detector Meas. ΙF Transducer Bandw. QuasiPeak 1.0 s 200 Hz NSLK8126 2008 Average QuasiPeak 1.0 s 150.0 kHz 30.0 MHz 5.0 kHz 9 kHz NSLK8126 2008

Average



MEASUREMENT RESULT: "TUV-1224-2 fin"

12/24/2015 Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	48.50	10.5	66	17.5	QP	N	GND
0.190000	53.50	10.5	64	10.5	QP	N	GND
3,430000	40.40	11.1	56	15.6	OP	N	GND

MEASUREMENT RESULT: "TUV-1224-2 fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.205000	38.30	10.5	53	15.1	AV	N	GND
0.260000	33.30	10.6	51	18.1	AV	N	GND
3.570000	32.20	11.1	46	13.8	AV	N	GND



 Prüfbericht - Nr.:
 17056242 001
 Seite 60 von 63

 Test Report No.
 Page 60 of 63

6. Safety Human exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT: Pass

Test standard : RSS-102 Issue 5 March 2015

FCC KDB Publication 447498 D01 v06

The maximum radiated power of the transmitter is 0.627mW (-2.03dBm) only, which less than 309mW. Hence the EUT is exempted from routine evaluation limits (SAR Evaluation) according to clause 2.5.1 of RSS-102 Issue 5.

Since maximum radiated power of the transmitter is 0.627mW<96mW, and the distance from EUT to human is ≥50mm, hence the EUT is exclueded from SAR evaluation according to FCC KDB publication 447498 D01 General RF Exposure Guidance v06.



 Prüfbericht - Nr.:
 17056242 001
 Seite 61 von 63

 Test Report No.
 Page 61 of 63

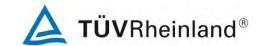
7. Photographs of the Test Set-Up

Photograph 1: Set-up for Spurious Emissions below 30MHz









Prüfbericht - Nr.: 17056242 001

Test Report No.

Seite 62 von 63 *Page 62 of 63*

Photograph 3: Set-up for Spurious Emissions of 1 – 18GHz



Photograph 4: Set-up for Spurious Emissions of 18 – 26.5GHz





Products

Prüfbericht - Nr.: 17056242 001 Test Report No.	Seite 63 von 63 Page 63 of 63
8. List of Tables	
Table 1: List of Test and Measurement Equipment Table 2: Measurement Uncertainty Table 3: Technical Specification of EUT Table 4: Test result of 20dB & 99% Bandwidth Table 5: Polarization of the measurement for the larger power level channel 2402MHz: Horizontal	
9. List of Photographs	
Photograph 1: Set-up for Spurious Emissions below 30MHz	61 62