

Prüfbericht-Nr.: <i>Test Report No.:</i>	50090969 001	Auftrags-Nr.: <i>Order No.:</i>	164095986	Seite 1 von 40 Page 1 of 40
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	07.06.2017	
Auftraggeber: <i>Client:</i>	Lightcomm Technology Co., Ltd. RM 1808 18F, FO TAN INDUSTRIAL CENTRE, NOS. 26-28 AU PUI WAN STREET, FO TAN SHATIN NEW TERRITORIES, HONGKONG			
Prüfgegenstand: <i>Test item:</i>	10.1" Flex Tablet for Android with Detachable Keyboard			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	NS-P10A8100K, NS-P10A8100K-C, xxxxxxP10A81xxxxxx, MID1028-MA (x=0-9, A-Z, a-z, - or blank, for market purpose only) (Trademark: INSIGNIA)			
Auftragsinhalt: <i>Order content:</i>	FCC/IC Certification			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 RSS-247 Issue 2 February 2017 RSS-Gen Issue 4 November 2014			
Wareneingangsdatum: <i>Date of receipt:</i>	07.06.2017			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000561697-006 to 008			
Prüfzeitraum: <i>Testing period:</i>	16.06.2017 - 12.07.2017			
Ort der Prüfung: <i>Place of testing:</i>	EMTEK (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
12.07.2017 Alex Lan / Project Engineer		12.07.2017 Owen Tian/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: XMF-MID1028 IC: 20064-MID1028 HVIN: NS-P10A8100K				
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 specification(s) F(ail) = failed a.m. test specification(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 PEAK OUTPUT POWER***RESULT: Pass***5.1.3 6dB BANDWIDTH AND 99% BANDWIDTH***RESULT: Pass***5.1.4 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100kHz BANDWIDTH***RESULT: Pass***5.1.5 POWER SPECTRAL DENSITY***RESULT: Pass***5.1.6 SPURIOUS EMISSION***RESULT: Pass***5.1.7 CONDUCTED EMISSIONS***RESULT: Pass*

CONTENTS

1.	GENERAL REMARKS	4
1.1	COMPLEMENTARY MATERIALS	4
2.	TEST SITES	4
2.1	TEST FACILITIES	4
2.2	LIST OF TEST AND MEASUREMENT INSTRUMENTS.....	5
2.3	TRACEABILITY	6
2.4	CALIBRATION	6
2.5	MEASUREMENT UNCERTAINTY.....	6
2.6	LOCATION OF ORIGINAL DATA.....	6
2.7	STATUS OF FACILITY USED FOR TESTING.....	7
3.	GENERAL PRODUCT INFORMATION	8
3.1	PRODUCT FUNCTION AND INTENDED USE.....	8
3.2	RATINGS AND SYSTEM DETAILS	8
3.3	INDEPENDENT OPERATION MODES	9
3.4	NOISE GENERATING AND NOISE SUPPRESSING PARTS	9
3.5	SUBMITTED DOCUMENTS	9
4.	TEST SET-UP AND OPERATION MODES	10
4.1	PRINCIPLE OF CONFIGURATION SELECTION.....	10
4.2	TEST OPERATION AND TEST SOFTWARE	10
4.3	SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	10
4.4	COUNTERMEASURES TO ACHIEVE ERM COMPLIANCE	10
4.5	TEST SETUP DIAGRAM	11
5.	TEST RESULTS	13
5.1	TRANSMITTER REQUIREMENT & TEST SUITES	13
5.1.1	<i>Antenna Requirement</i>	<i>13</i>
5.1.2	<i>Peak Output Power</i>	<i>14</i>
5.1.3	<i>6dB Bandwidth and 99% Bandwidth</i>	<i>16</i>
5.1.4	<i>Conducted Spurious Emissions measured in 100kHz Bandwidth</i>	<i>17</i>
5.1.5	<i>Power spectral density</i>	<i>34</i>
5.1.6	<i>Spurious Emission</i>	<i>35</i>
5.1.7	<i>Conducted emissions.....</i>	<i>36</i>
6.	PHOTOGRAPHS OF THE TEST SET-UP	37
7.	LIST OF TABLES	39
8.	LIST OF PHOTOGRAPHS	39

1. General Remarks

1.1 Complementary Materials

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

Appendix A: Test data of 2.4G Wi-Fi.

2. Test Sites

2.1 Test Facilities

EMTEK (Shenzhen) Co., Ltd.

(FCC Registration No.: 709623)

(Test site Industry Canada No.: 4480A-2)

Bldg 69, Majialong Industry Zone, Nanshan District,
Shenzhen, Guangdong, P.R. China

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

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Transmitter spurious emissions				
EMI Test Receiver	Rohde & Schwarz	ESU	1302.6005.26	2018-05-20
Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	2018-05-20
Cable	H+B	3M SF104-26.5	295838/4	2018-05-21
Cable	H+B	6M SF104-26.5	295840/4	2018-05-21
Pre-Amplifier	HP	8447F	2944A07999	2018-05-20
Bilog Antenna	Schwarzbeck	VULB9163	142	2018-05-21
Cable	Schwarzbeck	AK9513	ACRX1	2018-05-20
Cable	Rosenberger	N/A	FP2RX2	2018-05-20
Cable	Schwarzbeck	AK9513	CRPX1	2018-05-21
Cable	Schwarzbeck	AK9513	CRRX2	2018-05-21
Pre-Amplifier	A.H.	PAM-0126	1415261	2018-05-20
Horn Antenna	Schwarzbeck	BBHA 9120	707	2018-05-21
Pre-Amplifier	A.H.	PAM-0126	1415261	2018-05-20
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA91703 99	2018-05-20
EMI Test Receiver	Rohde & Schwarz	FSV40	132.1- 3008K39- 100967-AP	2018-05-20
Pre-Amplifier	Lunar EM	LNA26G40-40	J101313102 8001	2018-05-20
Horn Antenna	AHS/USA	SAS-573	184	2018-05-20
Cable	H+B	0.5M SF104- 26.5	289147/4	2018-05-20
Cable	H+B	3M SF104-26.5	295838/4	2018-05-20
Cable	H+B	6M SF104-26.5	295840/4	2018-05-20
Radio Spectrum Test				
EMI Test Receiver	Rohde & Schwarz	ESCI	101045	2018-05-21
Vector Signal Generater	Agilent	N5182B	My53050553	2018-05-20
Analog Signal Generator	Agilent	N5171B	My53050878	2018-05-20
Signal Analyzer	Agilent	N9010A	My53470879	2018-05-21
Power Meter	Agilent	PS-X10-100	N/A	2018-05-21
Temp. / Humidity Chamber	Kingson	THS-M1	242	2018-05-20
Conducted Emission				
Test Receiver	Rohde & Schwarz	ESCI	26115-010- 0027	2018-05-20
L.I.S.N.	Rohde & Schwarz	ENV216	101161	2018-05-20
50Ω Coaxial Switch	Anritsu	MP59B	6100175589	2018-05-21
Voltage Probe	Rohde & Schwarz	ESH2-Z3	100122	2018-05-21

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 basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-5}$
Maximum Peak Output Power Test	$\pm 1.0\text{dB}$
Conducted Emissions Test	$\pm 2.0\text{dB}$
Radiated Emission Test	$\pm 2.0\text{dB}$
Power Density	$\pm 2.0\text{dB}$
Occupied Bandwidth Test	$\pm 1.0\text{dB}$
Band Edge Test	$\pm 3\text{dB}$
All emission, radiated	$\pm 3\text{dB}$
Antenna Port Emission	$\pm 3\text{dB}$
Temperature	$\pm 0.5^\circ\text{C}$
Humidity	$\pm 3\%$

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.

Prüfbericht - Nr.: 50090969 002*Test Report No.***Seite 7 von 39***Page 7 of 39*

2.7 Status of Facility Used for Testing

EMTEK (Shenzhen) Co., Ltd. test facility located at Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 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 EUTs are Android 10.1" tablet with Wi-Fi, Bluetooth function.
 All models are identical except the model name.
 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	10.1" Flex Tablet for Android with Detachable Keyboard
Type Designation	NS-P10A8100K, NS-P10A8100K-C, xxxxxxP10A81xxxxxx, MID1028-MA (x=0-9, A-Z, a-z, - or blank, for market purpose only)
FCC ID	XMF-MID1028
IC	20064-MID1028
HVIN	NS-P10A8100K
Operating Frequency band	2412 – 2462MHz
Extreme Temperature Range	0~+45°C
Operation Voltage	DC 3.7V, 6000mAh via built-in lithium-ion battery DC 5V via AC/DC adapter
Antenna Gain	2.83 dBi

Table 4: Technical Specification of Wi-Fi

Item	Description			
	IEEE 802.11b	IEEE 802.11g	IEEE 802.11n (HT20)	IEEE 802.11n (HT40)
Operating Frequency band (MHz)	2412 ~ 2462	2412 ~ 2462	2412 ~ 2462	2422 ~ 2452
Channel Number	11	11	11	7
Modulation	DSSS (DBPSK, DQPSK), CCK)	OFDM (DBPSK, DQPSK)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)	OFDM (BPSK, QPSK, 16-QAM, 64-QAM)
Data Rate (Mbps)	1, 2, 5, 11	6, 9, 12, 18, 24, 36, 48, 54	MCS0 ~ MCS7	MCS0 ~ MCS7
Output Power Setting level	15	14	14	14
Media Access Protocol	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK	CSMA/CA with ACK
Remark: Reduce power setting of 802.11g/n due to power setting of SAR and retest Peak output power.				

Table 5: Carrier Frequency

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400 – 2483.5 MHz	1	2412 MHz	8	2447 MHz
	2	2417 MHz	9	2452 MHz
	3	2422 MHz	10	2457 MHz
	4	2427 MHz	11	2462 MHz
	5	2432 MHz		
	6	2437 MHz		
	7	2442 MHz		

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wi-Fi mode (2.4GHz)
 - 1. Transmitting
 - a. Low Channel
 - b. Middle Channel
 - c. High Channel
- B. Standby
- C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- Constructional Drawing
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

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.	Rating
AC/DC Adapter	DongGuan Aohai Power Technology Co., Ltd	A88-502000	Input: AC 100-240V, 50/60Hz, 0.35A; Output: DC 5V, 2.0A

4.4 Countermeasures to Achieve ERM 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

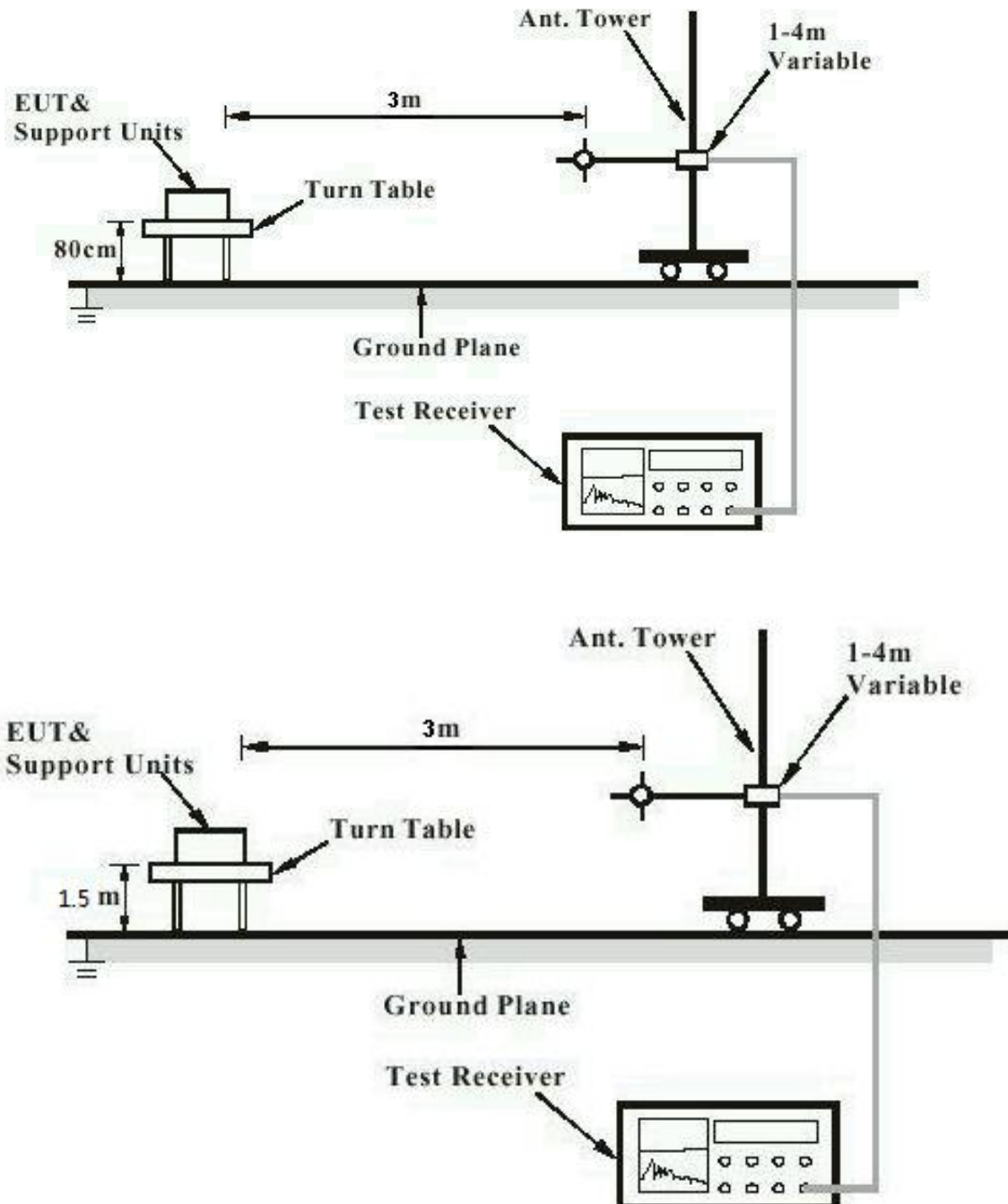


Diagram of Measurement Equipment Configuration for Conduction Measurement

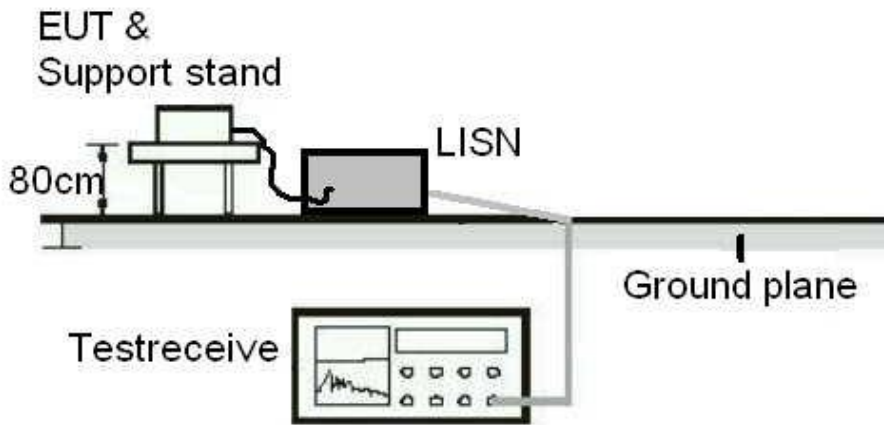
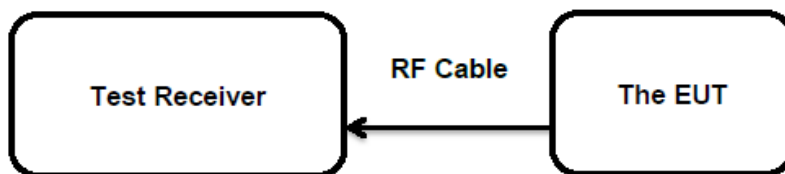


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass**

Test standard : FCC Part 15.247(b)(4) & FCC Part 15.203
RSS-Gen Clause 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 2.83 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.

Refer to EUT Photo for further details.

5.1.2 Peak Output Power

RESULT:
Pass

Test date : 2017-07-12
 Test standard : FCC Part 15.247(b)(3)
 RSS-247 clause 5.4(4)
 Basic standard : ANSI C63.10: 2013
 Clause 9.1 of KDB 558074 v03r01
 Limit : < 1 Watt (30dBm) (Maximum peak
 conducted output power)
 < 4 Watt (36dBm) (e.i.r.p.)
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A.1
 Ambient temperature : 25°C
 Relative humidity : 50%
 Atmospheric pressure : 101kPa

Table 6: Test result of Peak Output Power of 802.11b

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2412	16.82	30
Middle Channel	2437	16.86	30
High Channel	2462	16.96	30

Table 7: Test result of Peak Output Power of 802.11g

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2412	15.57	30
Middle Channel	2437	15.74	30
High Channel	2462	15.69	30

Table 8: Test result of Peak Output Power of 802.11n (HT20)

Channel	Channel Frequency (MHz)	Peak Output Power (dBm)	Limit (dBm)
Low Channel	2412	15.37	30
Middle Channel	2437	15.45	30
High Channel	2462	15.47	30

Table 9: Test result of Peak Output Power of 802.11n (HT40)

Channel	Channel Frequency (MHz)	Peak Output Power	Limit
		(dBm)	(dBm)
Low Channel	2422	15.58	30
Middle Channel	2437	15.61	30
High Channel	2452	15.55	30

Note: The max e.r.i.p is 19.43 dBm less than 4W (36dBm).

5.1.3 6dB Bandwidth and 99% Bandwidth

RESULT:
Pass

Date of testing : 2017-07-12
 Test standard : FCC Part 15.247(a)(2)
 : RSS-247 clause 5.2(1)
 : RSS-Gen clause 6.6
 Basic standard : ANSI C63.10: 2013
 : Clause 8 of KDB 558074 v03r01
 Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
 Operation Mode : A.1
 Ambient temperature : 25°C
 Relative humidity : 50%
 Atmospheric pressure : 101kPa

Table 10: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11b

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	10.02	≥0.5	12.281
Mid Channel	2437	10.05	≥0.5	12.311
High Channel	2462	10.01	≥0.5	12.329

Table 11: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11g

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	15.18	≥0.5	16.881
Mid Channel	2437	15.18	≥0.5	16.821
High Channel	2462	15.19	≥0.5	16.854

Table 12: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11n (HT20)

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2412	15.17	≥0.5	17.742
Mid Channel	2437	15.18	≥0.5	17.742
High Channel	2462	15.18	≥0.5	17.763

Table 13: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11n (HT40)

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)	99% Bandwidth (MHz)
Low Channel	2422	35.30	≥0.5	36.140
Mid Channel	2437	35.29	≥0.5	36.128
High Channel	2452	35.30	≥0.5	35.968

Prüfbericht - Nr.: 50090969 002

Test Report No.

Seite 17 von 39

Page 17 of 39

5.1.4 Conducted Spurious Emissions measured in 100kHz Bandwidth**RESULT:****Pass**

Date of testing : 2017-07-12
Test standard : FCC part 15.247(d)
RSS-247 clause 5.5
Basic standard : ANSI C63.10: 2013
Clause 13 of KDB 558074 v03r01
Limit : 20dB (below that in the 100kHz bandwidth within
the band that contains the highest level of the
desired power)
Kind of test site : Shield room

Test setup

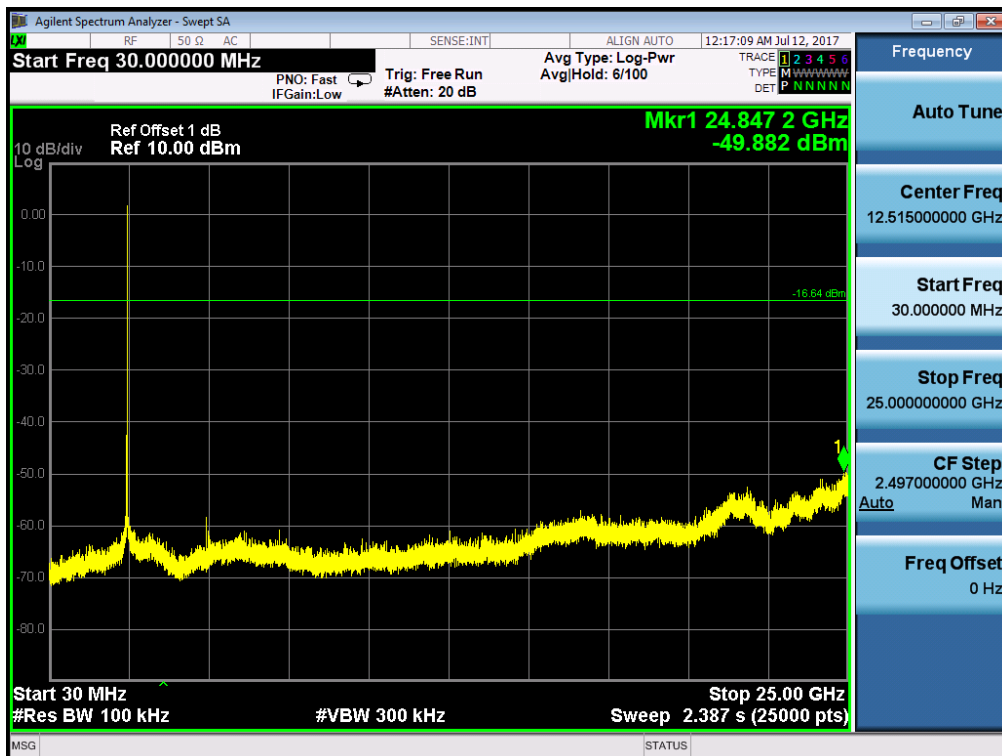
Test Channel : Low/ Middle/ High
Operation mode : A.1
Ambient temperature : 25°C
Relative humidity : 50%
Atmospheric pressure : 101kPa

For details refer to following test plot.

Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11b Low Channel

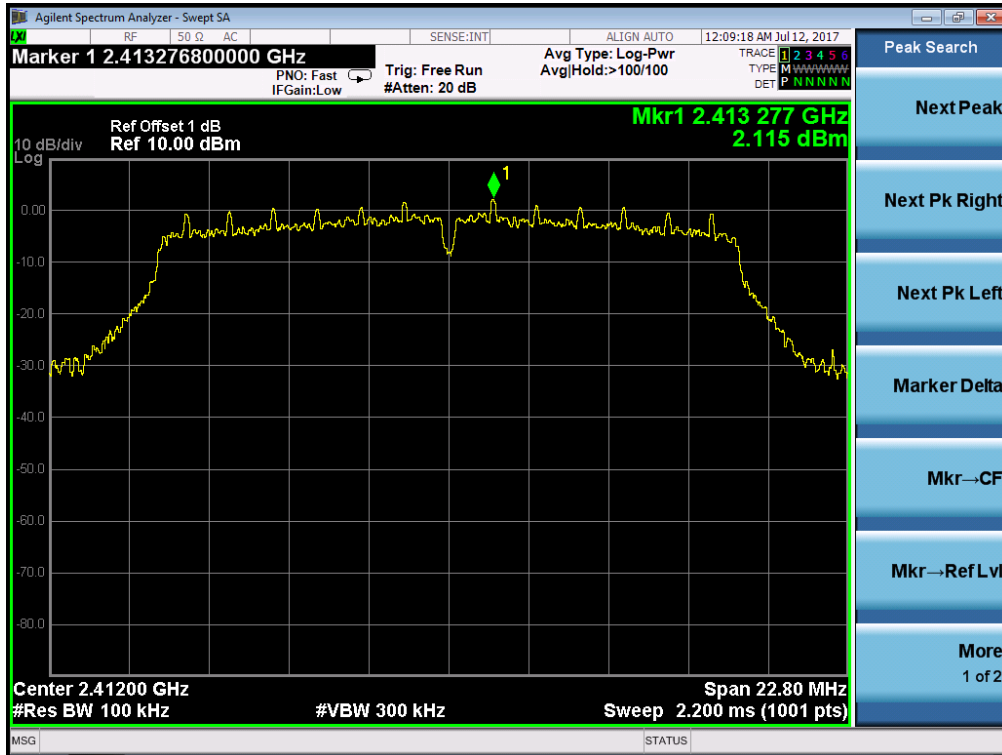


Middle Channel


High Channel


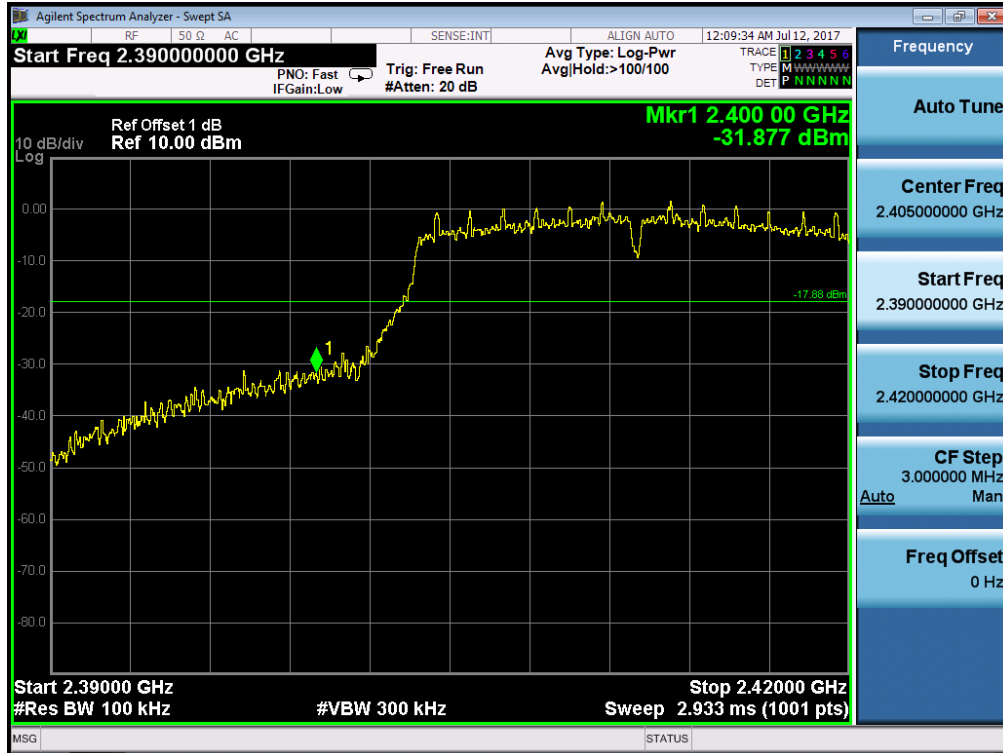
Band Edge


Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11g Low Channel



Middle Channel


High Channel


Band Edge


Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11n (HT20) Low Channel

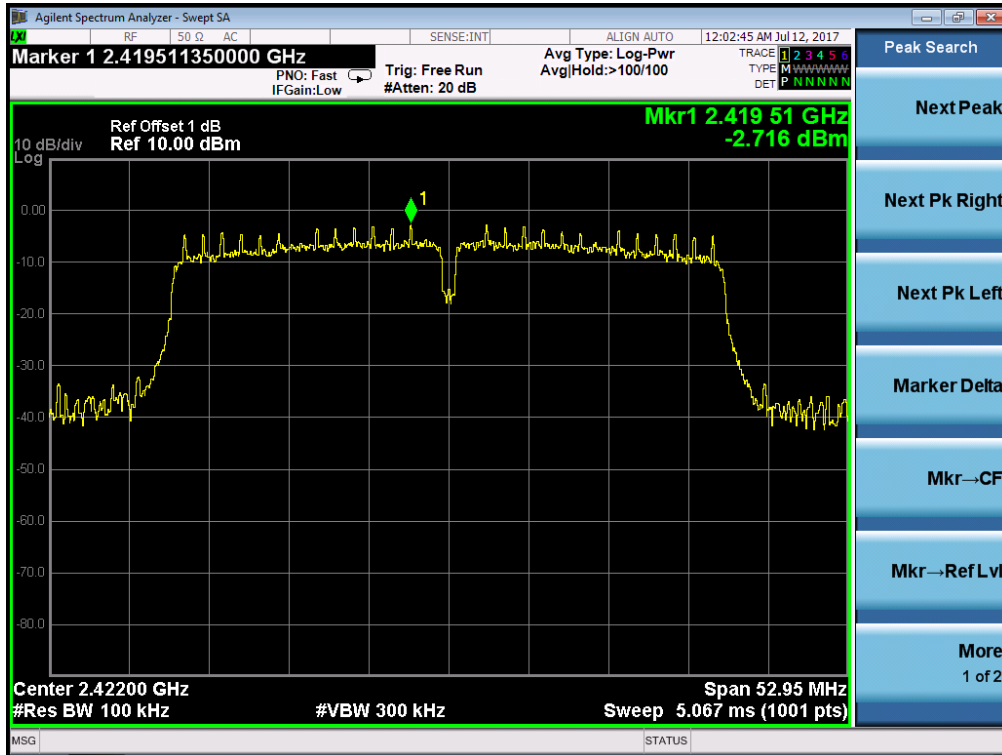


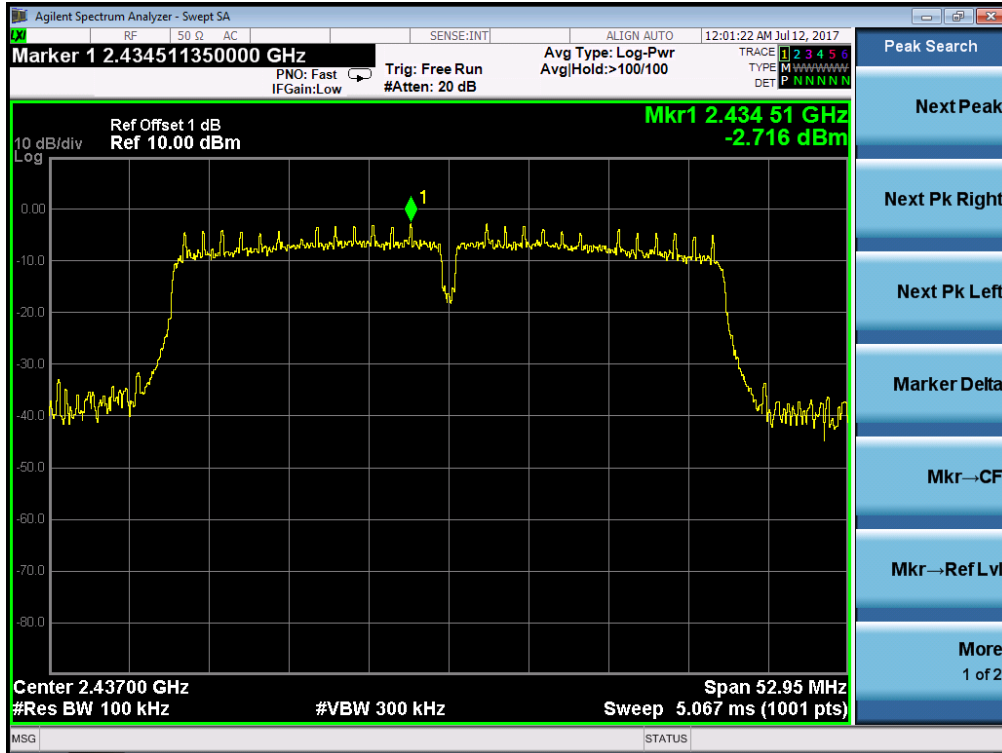
Middle Channel

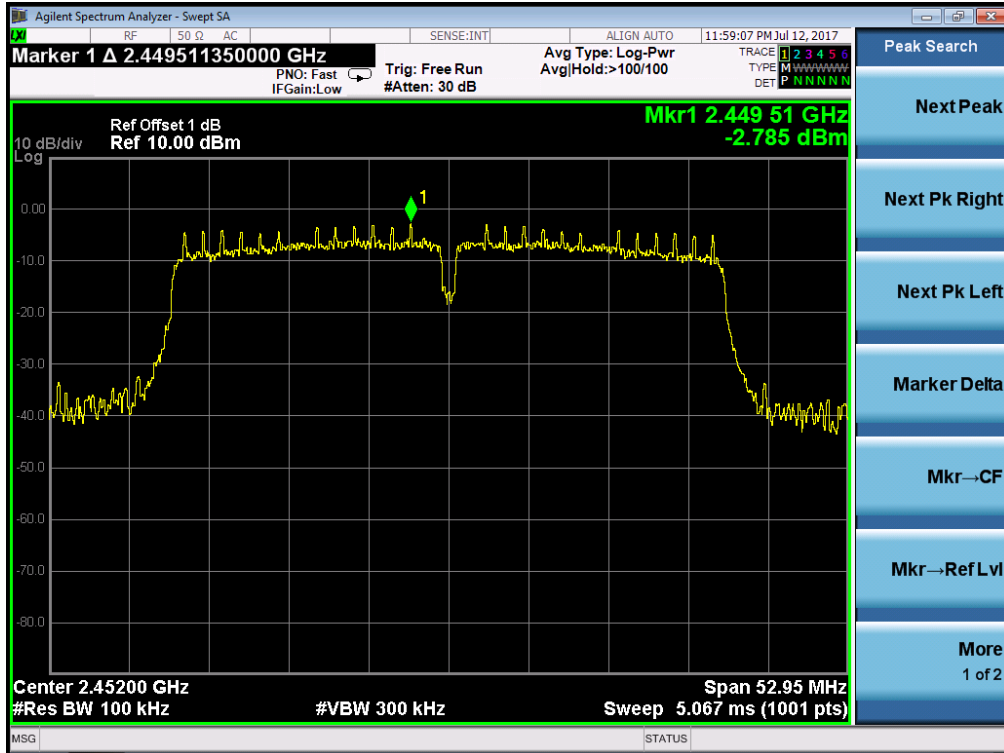

High Channel

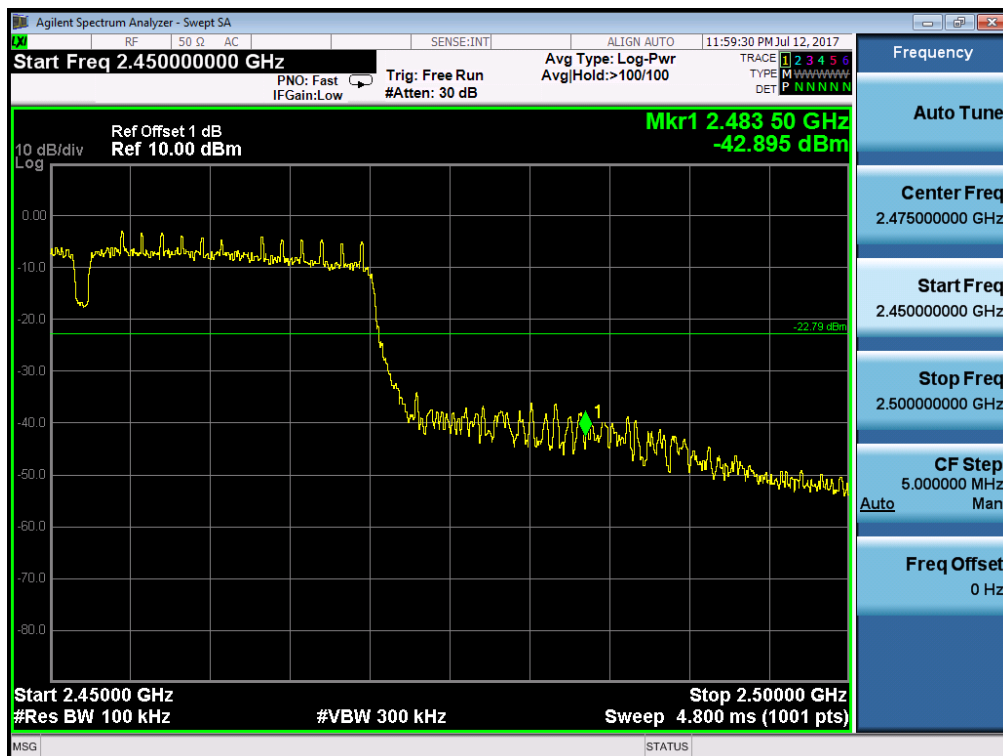
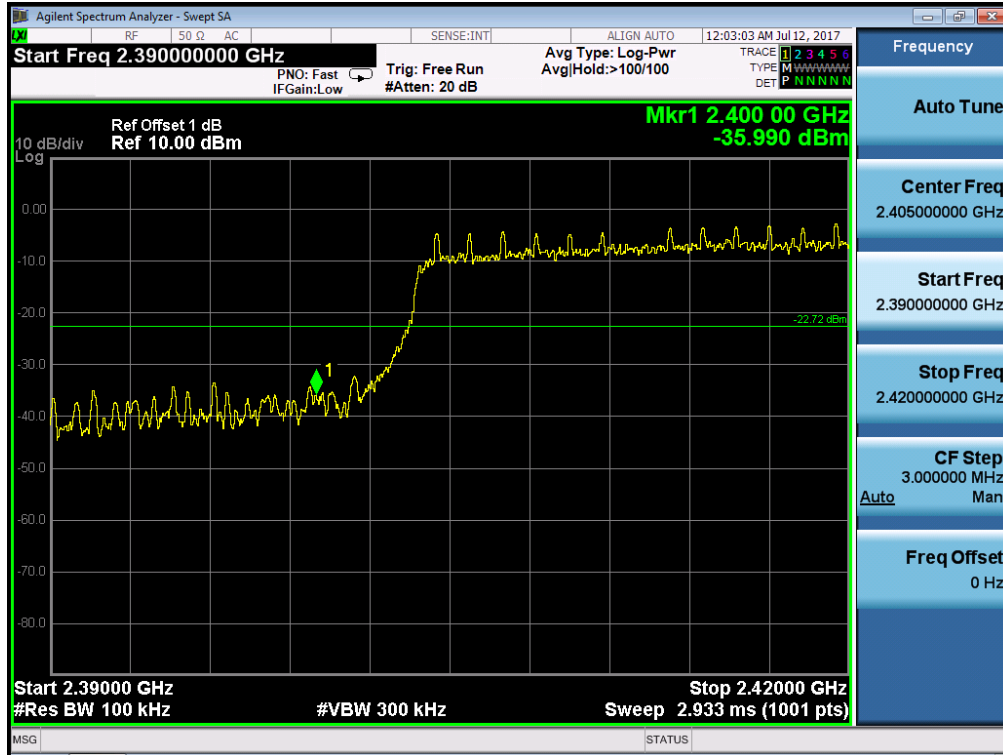

Band Edge


Test Plot of Conducted spurious emissions measured in 100kHz Bandwidth of 802.11n (HT40) Low Channel



Middle Channel


High Channel


Band Edge


Prüfbericht - Nr.: 50090969 002
Test Report No.
Seite 34 von 39
Page 34 of 39

5.1.5 Power spectral density

RESULT:
Pass

Date of testing : 2017-07-12
 Test standard : FCC part 15.247(e)
 : RSS-247 clause 5.2(2)
 Basic standard : ANSI C63.10: 2013
 : Clause 10 of KDB 558074 v03r01
 Limit : 8dBm/3kHz
 Kind of test site : Shield room

Test setup

Test Channel : Low/ Middle/ High
 Operation mode : A.1
 Ambient temperature : 25°C
 Relative humidity : 50%
 Atmospheric pressure : 101kPa

Table 14: Test result of power spectral density:

Mode	Rate (Mbps)	Channel (MHz)	Result (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
802.11b		2412	-12.448	8	Pass
		2437	-11.188	8	Pass
		2462	-12.129	8	Pass
802.11g		2412	-12.844	8	Pass
		2437	-12.426	8	Pass
		2462	-12.156	8	Pass
802.11n (HT20)		2412	-12.743	8	Pass
		2437	-12.919	8	Pass
		2462	-12.712	8	Pass
802.11n (HT40)		2422	-18.381	8	Pass
		2437	-17.589	8	Pass
		2452	-17.640	8	Pass

Prüfbericht - Nr.: 50090969 002

Test Report No.

Seite 35 von 39

Page 35 of 39

5.1.6 Spurious Emission

RESULT:**Pass**

Date of testing : 2017-07-04
Test standard : FCC part 15.247(d)
RSS-Gen
Basic standard : ANSI C63.10: 2013
Clause 11 of KDB 558074 v03r01
Limits : FCC part 15.209(a)
Kind of test site : 3m Semi-Anechoic Chamber & Anechoic Chamber

Test setup

Test Channel : Low/ Middle/ High
Operation mode : A.1
Ambient temperature : 24°C
Relative humidity : 53%
Atmospheric pressure : 101kPa

For details refer to appendix A.

Prüfbericht - Nr.: 50090969 002

Test Report No.

Seite 36 von 39

Page 36 of 39

5.1.7 Conducted emissions

RESULT:**Pass**

Date of testing : 2017-06-16
Test standard : FCC Part 15.207
RSS-Gen Clause 8.8
Basic standard : ANSI C63.10: 2013
Frequency range : 0.15 – 30MHz
Limits : FCC Part 15.207
Table 3 of RSS-Gen
Kind of test site : Shield room

Test setup

Input Voltage : AC 120V, 60Hz
Operation Mode : A
Earthing : Not Connected
Ambient temperature : 22°C
Relative humidity : 55%
Atmospheric pressure : 101kPa

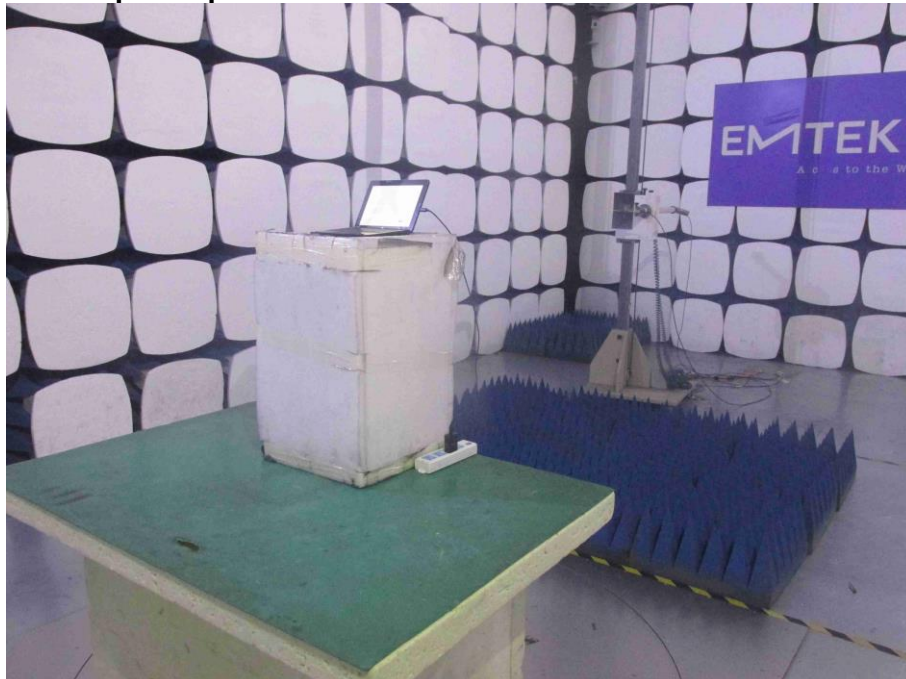
For details refer to appendix A.

6. Photographs of the Test Set-Up

Photograph 1: Set-up for Spurious Emissions for 30 - 1000MHz



Photograph 2: Set-up for Spurious Emissions for 1 - 18GHz



Photograph 3: Set-up for Spurious Emissions for 18 – 26.5GHz



Photograph 4: Set-up for Conducted Emissions



7. List of Tables

Table 1: List of Test and Measurement Equipment.....	5
Table 2: Measurement Uncertainty	6
Table 3: Technical Specification of EUT	8
Table 4: Technical Specification of Wi-Fi	8
Table 5: Carrier Frequency	9
Table 6: Test result of Peak Output Power of 802.11b.....	14
Table 7: Test result of Peak Output Power of 802.11g.....	14
Table 8: Test result of Peak Output Power of 802.11n (HT20).....	14
Table 9: Test result of Peak Output Power of 802.11n (HT40).....	15
Table 10: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11b	16
Table 11: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11g	16
Table 12: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11n (HT20)	16
Table 13: Test result of 6dB Bandwidth and 99% Bandwidth of 802.11n (HT40)	16
Table 14: Test result of power spectral density:	34

8. List of Photographs

Photograph 1: Set-up for Spurious Emissions for 30 - 1000MHz	37
Photograph 2: Set-up for Spurious Emissions for 1 - 18GHz	37
Photograph 3: Set-up for Spurious Emissions for 18 – 26.5GHz.....	38
Photograph 4: Set-up for Conducted Emissions	38

Table of Contents

1.	TRANSMITTER SPURIOUS EMISSIONS OF 802.11B MODE	2
1.1	TRANSMITTER SPURIOUS EMISSIONS, 30MHZ - 1GHZ	2
1.2	TRANSMITTER SPURIOUS EMISSIONS, 1GHZ - 18GHZ	8
1.3	RESTRICTED BANDS	14
2.	TRANSMITTER SPURIOUS EMISSIONS OF 802.11G MODE	18
2.1	TRANSMITTER SPURIOUS EMISSIONS, 30MHZ - 1GHZ	18
2.2	TRANSMITTER SPURIOUS EMISSIONS, 1GHZ - 18GHZ	24
2.3	RESTRICTED BANDS	30
3.	TRANSMITTER SPURIOUS EMISSIONS OF 802.11N (HT20) MODE	34
3.1	TRANSMITTER SPURIOUS EMISSIONS, 30MHZ - 1GHZ	34
3.2	TRANSMITTER SPURIOUS EMISSIONS, 1GHZ - 18GHZ	40
3.3	RESTRICTED BANDS	46
4.	TRANSMITTER SPURIOUS EMISSIONS OF 802.11N (HT40) MODE	50
4.1	TRANSMITTER SPURIOUS EMISSIONS, 30MHZ - 1GHZ	50
4.2	TRANSMITTER SPURIOUS EMISSIONS, 1GHZ - 18GHZ	56
4.3	RESTRICTED BANDS	62
5.	CONDUCTED EMISSIONS	66

Note 1: Testing was carried out within frequency range 9 kHz to the tenth harmonics. The measurement results below 30MHz and above 18GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

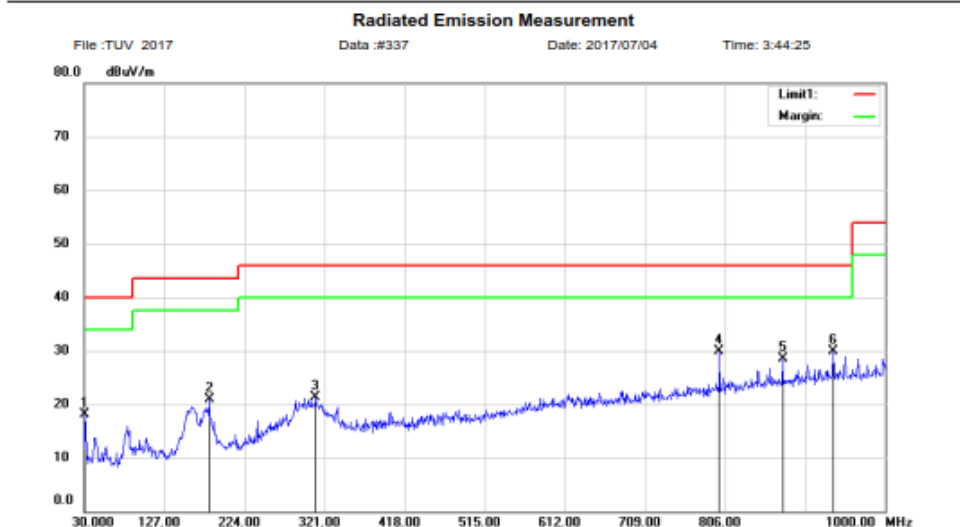
1. Transmitter Spurious Emissions of 802.11b mode

1.1 Transmitter Spurious Emissions, 30MHz - 1GHz

Shenzhen EMTEK Co., Ltd.
Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P.R. China
www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282



Access to the World



Site 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
EUT: Insignia Flex Android 10" Tablet
M/N: NS-P10A8100
Mode:11b 2412
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Antenna Height cm	Table Degree	Comment
1		30.9700	34.71	-16.55	18.16	40.00	-21.84	QP		
2		181.3200	37.90	-17.08	20.82	43.50	-22.68	QP		
3		310.3300	33.68	-12.42	21.26	46.00	-24.74	QP		
4		799.2100	32.36	-2.55	29.81	46.00	-16.19	QP		
5		875.8400	29.94	-1.34	28.60	46.00	-17.40	QP		
6	*	936.9500	30.53	-0.54	29.99	46.00	-16.01	QP		

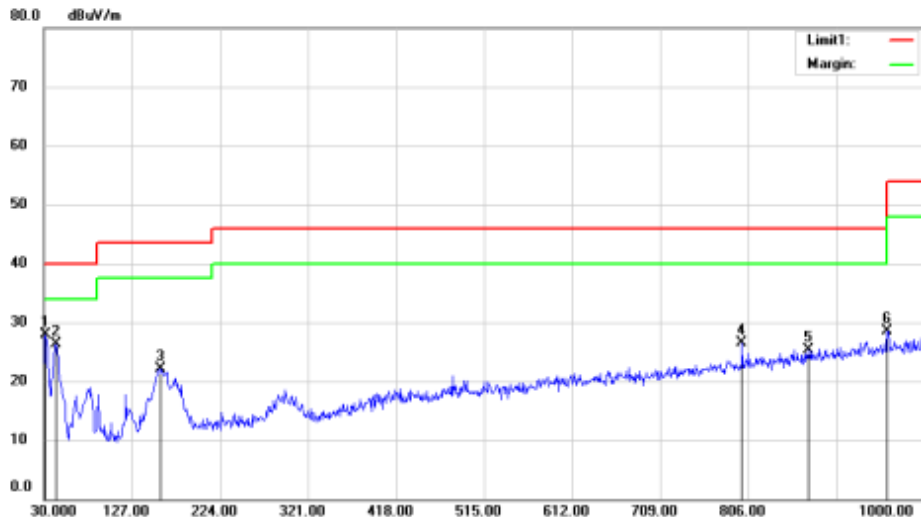
Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282



Radiated Emission Measurement

File :TUV 2017 Data :#335 Date: 2017/07/04 Time: 3:45:35



Site 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	31.9400	44.37	-16.49	27.88	40.00	-12.12	QP		
2		43.5800	41.52	-15.25	26.27	40.00	-13.73	QP		
3		158.0400	40.82	-18.77	22.05	43.50	-21.45	QP		
4		799.2100	29.06	-2.55	26.51	46.00	-19.49	QP		
5		872.9300	26.78	-1.39	25.39	46.00	-20.61	QP		
6		959.2600	28.81	-0.28	28.53	46.00	-17.47	QP		

*:Maximum data x:Over limit !:over margin

Operator: KK

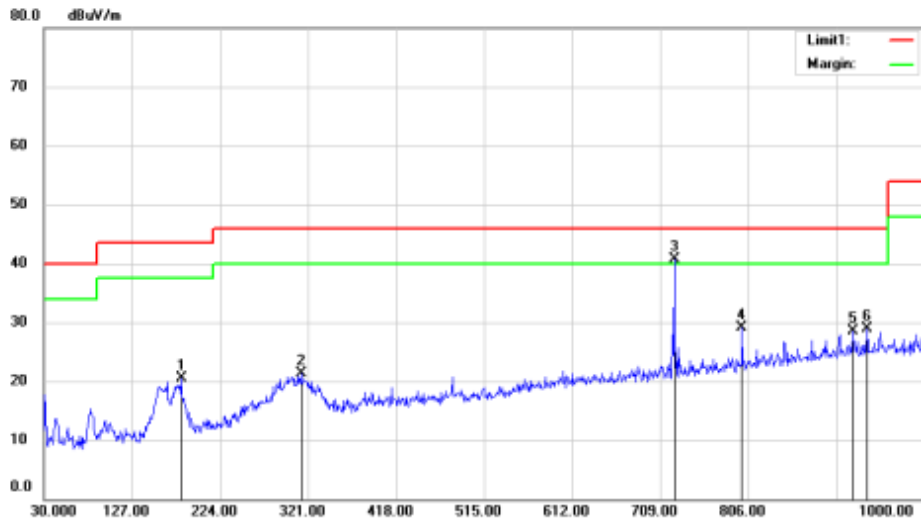
Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement

File :TUV 2017 Data :#339 Date: 2017/07/04 Time: 3:45:07



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2437
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		181.3200	37.54	-17.08	20.46	43.50	-23.04	QP		
2		313.2400	33.79	-12.41	21.38	46.00	-24.62	QP		
3	*	724.5200	44.50	-3.77	40.73	46.00	-5.27	QP		
4		799.2100	31.59	-2.55	29.04	46.00	-16.96	QP		
5		921.4300	29.24	-0.72	28.52	46.00	-17.48	QP		
6		936.9500	29.37	-0.54	28.83	46.00	-17.17	QP		

*:Maximum data x:Over limit !:over margin

Operator: KK

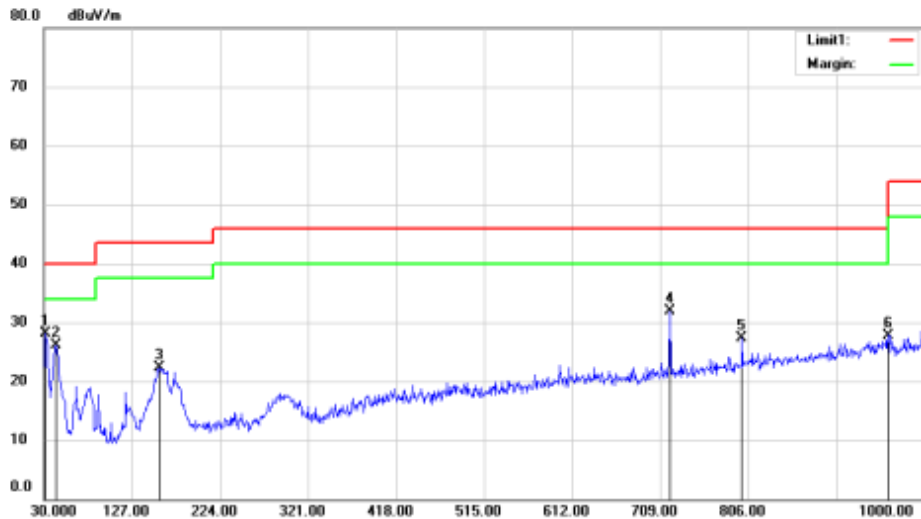
Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel: +86-755-2695 4280 Fax: +86-755-2695 4282



Radiated Emission Measurement

File :TUV 2017 Data :#340 Date: 2017/07/04 Time: 3:48:17



Site 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2437
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	31.9400	44.60	-16.49	28.11	40.00	-11.89	QP		
2		43.5800	41.30	-15.25	26.05	40.00	-13.95	QP		
3		157.0700	41.11	-18.85	22.26	43.50	-21.24	QP		
4		719.6700	35.73	-3.85	31.88	46.00	-14.12	QP		
5		799.2100	29.94	-2.55	27.39	46.00	-18.61	QP		
6		960.2300	28.07	-0.27	27.80	54.00	-26.20	QP		

*:Maximum data x:Over limit !:over margin

Operator: KK

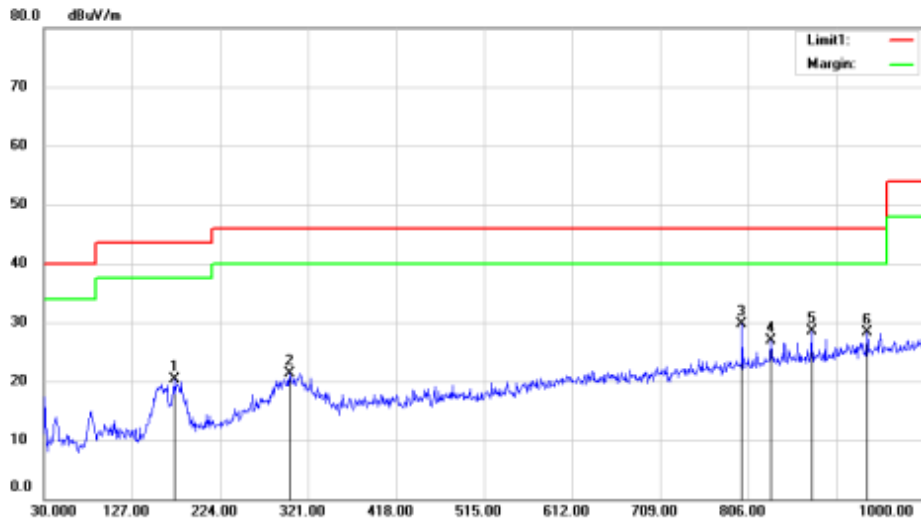
Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement

File :TUV 2017 Data :#341 Date: 2017/07/04 Time: 3:50:27



Site: 3m Chamber #3 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		173.5600	38.26	-18.03	20.23	43.50	-23.27	QP		
2		300.6300	33.72	-12.47	21.25	46.00	-24.75	QP		
3	*	799.2100	32.22	-2.55	29.67	46.00	-16.33	QP		
4		831.2200	28.92	-2.08	26.84	46.00	-19.16	QP		
5		875.8400	29.87	-1.34	28.53	46.00	-17.47	QP		
6		936.9500	28.80	-0.54	28.26	46.00	-17.74	QP		

*:Maximum data x:Over limit !:over margin

Operator: KK

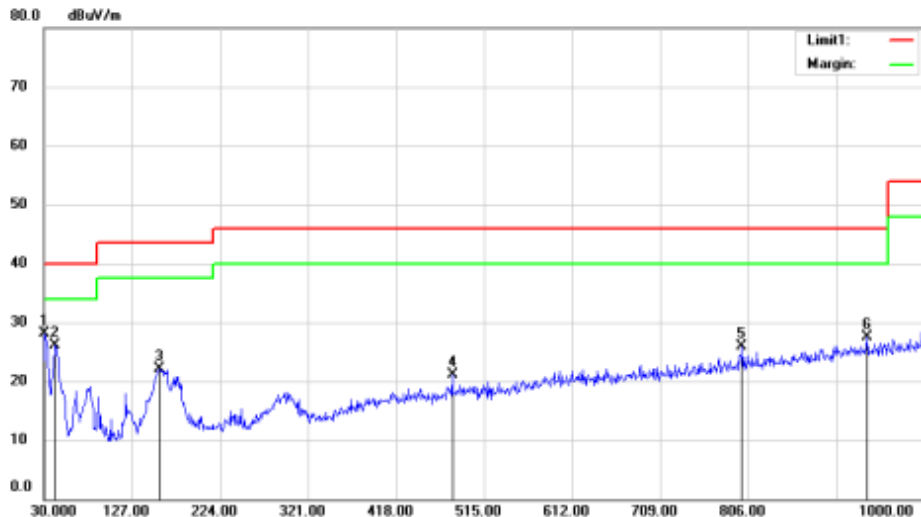
Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement

File :TUV 2017 Data :#342 Date: 2017/07/04 Time: 3:51:37



Site: 3m Chamber #3 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	*	30.9700	44.70	-16.55	28.15	40.00	-11.85	QP		
2		42.6100	41.45	-15.26	26.19	40.00	-13.81	QP		
3		157.0700	41.03	-18.85	22.18	43.50	-21.32	QP		
4		480.0800	29.13	-8.09	21.04	46.00	-24.96	QP		
5		799.2100	28.50	-2.55	25.95	46.00	-20.05	QP		
6		936.9500	28.11	-0.54	27.57	46.00	-18.43	QP		

*:Maximum data x:Over limit !:over margin

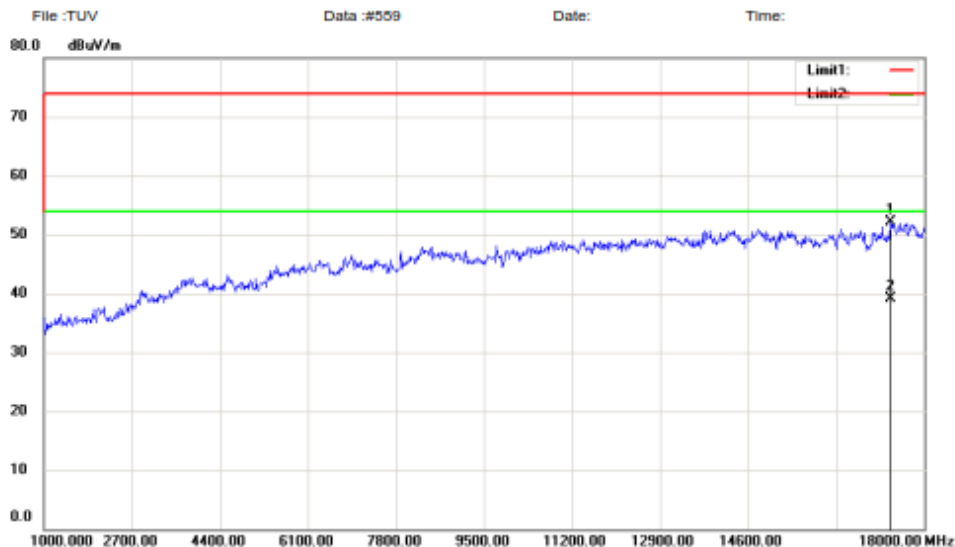
Operator: KK

1.2 Transmitter Spurious Emissions, 1GHz - 18GHz

Shenzhen EMTEK Co., Ltd.
Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15C Power: AC 120V/60Hz Humidity: 53 %
EUT: Insignia Flex Android 10" Tablet
M/N: NS-P10A8100
Mode:11b 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		17354.00	56.99	-4.95	52.04	74.00	-21.96	peak		
2	*	17354.00	44.05	-4.95	39.10	54.00	-14.90	AVG		

*:Maximum data x:Over limit !:over margin

Operator: KK

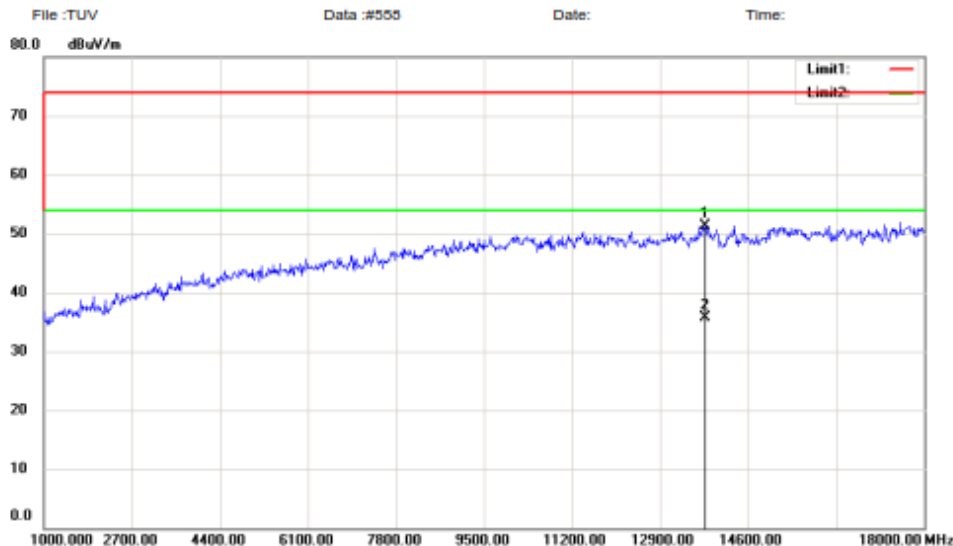
File :TUVData :#559

Page: 1

Shenzhen EMTEK Co., Ltd.
Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
Limit: (RE)FCC PART 15C Power: AC 120V/60Hz Humidity: 53 %
EUT: Insignia Flex Android 10" Tablet
M/N: NS-P10A8100
Mode:11b 2412
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		13767.00	60.35	-8.97	51.38	74.00	-22.62	peak			
2	*	13767.00	44.77	-8.97	35.80	54.00	-18.20	AVG			

*:Maximum data x:Over limit !:over margin

Operator: KK

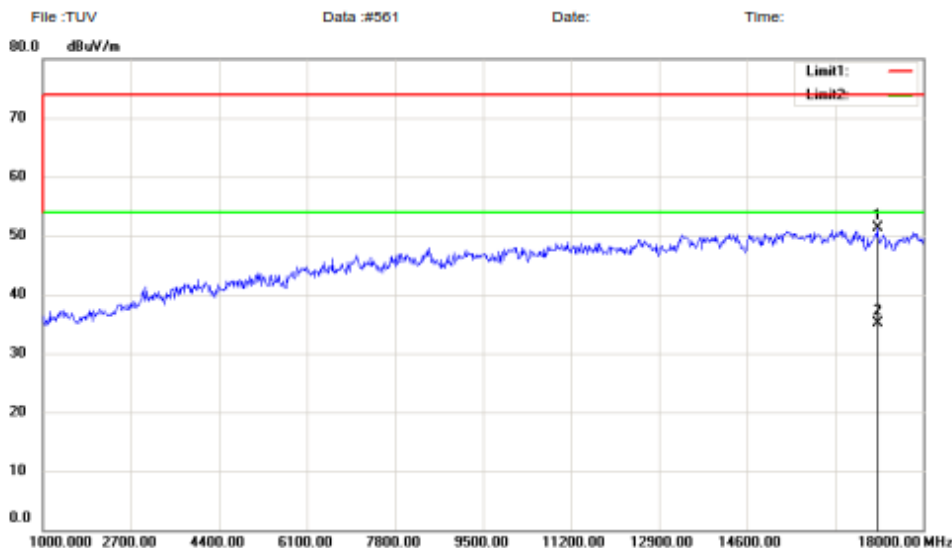
File :TUVData :#558

Page: 1

Shenzhen EMTEK Co., Ltd.
Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
Limit: (RE)FCC PART 15C Power: AC 120V/60Hz Humidity: 53 %
EUT: Insignia Flex Android 10" Tablet
M/N: NS-P10A8100
Mode:11b 2437
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		17116.00	59.15	-7.84	51.31	74.00	-22.69	peak		
2	*	17116.00	43.04	-7.84	35.20	54.00	-18.80	AVG		

*:Maximum data x:Over limit !:over margin

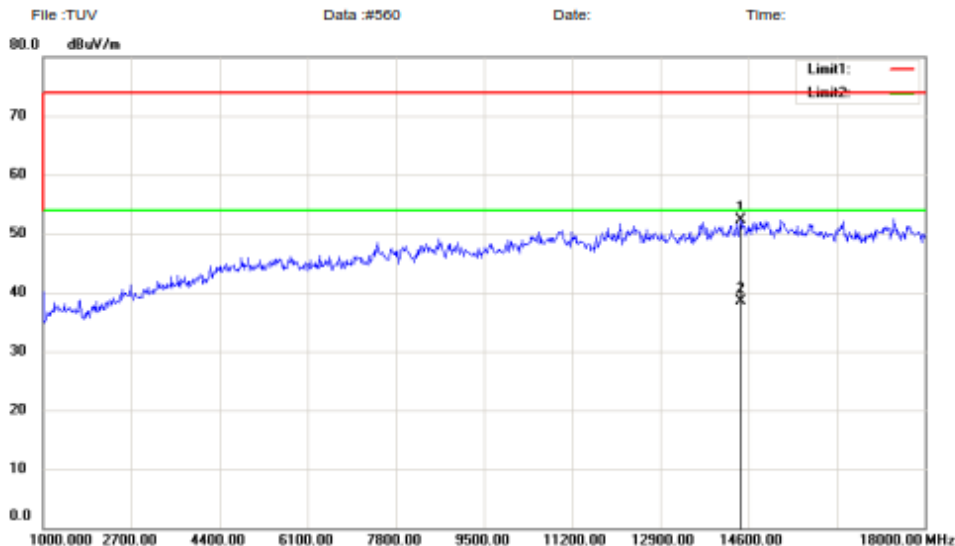
Operator: KK

Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2437
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		14447.00	60.88	-8.61	52.27	74.00	-21.73	peak		
2	*	14447.00	47.21	-8.61	38.60	54.00	-15.40	AVG		

*:Maximum data x:Over limit !:over margin

Operator: KK

File :TUVData :#560

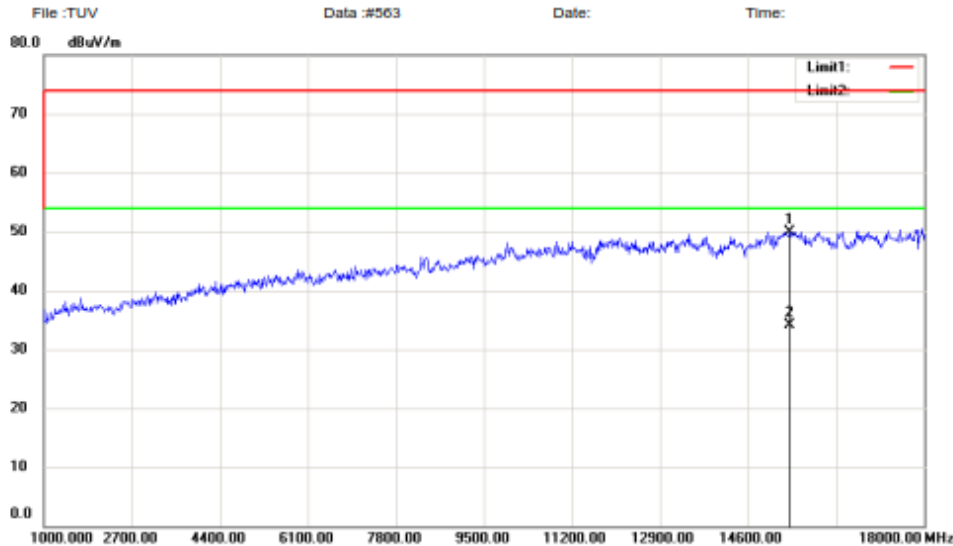
Page: 1

Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site 3m Chamber #2 Polarization: **Horizontal** Temperature: 24 C
 Limit: (RE)FCC PART 15C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		15399.00	60.84	-10.85	49.99	74.00	-24.01	peak		
2	*	15399.00	45.05	-10.85	34.20	54.00	-19.80	AVG		

*:Maximum data x:Over limit !:over margin

Operator: KK

File :TUVData :#563

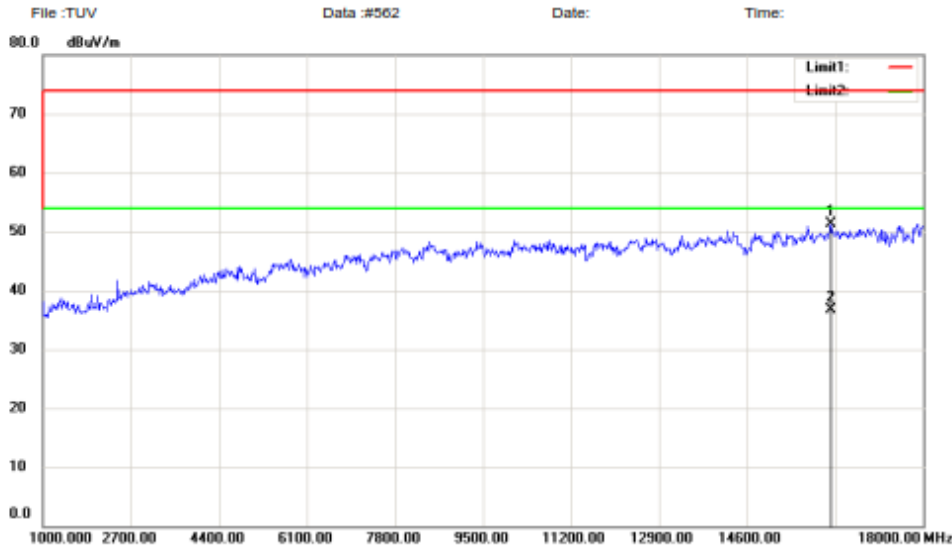
Page: 1

Produkte
 Products

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site 3m Chamber #2 Polarization: **Vertical** Temperature: 24 C
 Limit: (RE)FCC PART 15C Power: AC 120V/60Hz Humidity: 53 %
 EUT: Insignia Flex Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2462
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		16215.00	63.26	-12.00	51.26	74.00	-22.74	peak		
2	*	16215.00	48.80	-12.00	36.80	54.00	-17.20	AVG		

*:Maximum data x:Over limit !:over margin

Operator: KK

File :TUVData :#562

Page: 1

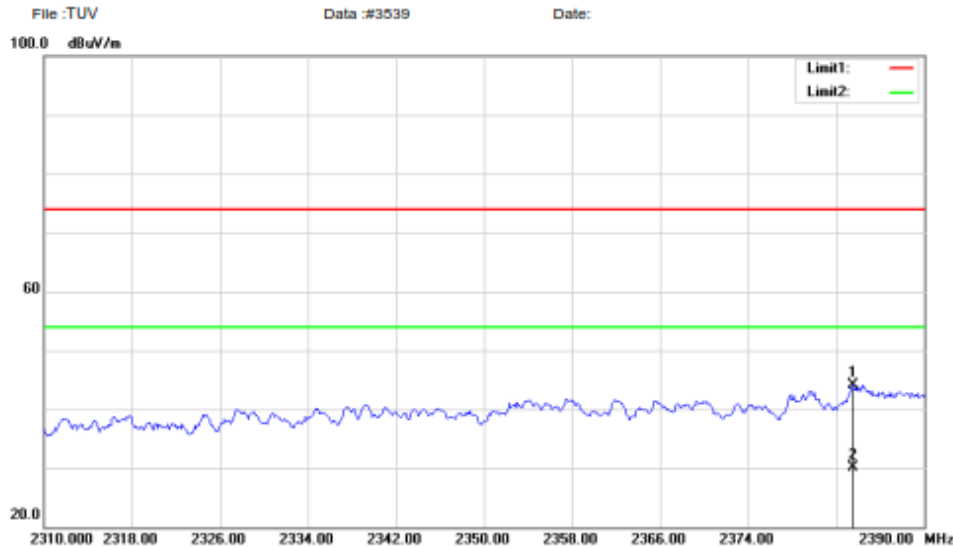
Produkte
 Products

1.3 Restricted Bands

Shenzhen EMTEK Co., Ltd.
 Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, 518052 P. R. China
 www.emtek.com.cn Tel:+86-755-2695 4280 Fax:+86-755-2695 4282



Radiated Emission Measurement



Site #1 Polarization: **Horizontal** Temperature: 22
 Limit: (RE)FCC PART 15 C Power: AC 120V/60Hz Humidity: 55 %
 EUT: Android 10" Tablet
 M/N: NS-P10A8100
 Mode:11b 2412
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2383.520	58.32	-14.25	44.07	74.00	-29.93	peak	0	
2	*	2383.520	44.26	-14.25	30.01	54.00	-23.99	AVG	0	

*:Maximum data x:Over limit !:over margin

Operator: KK