

Huawei Technologies Co., Ltd

Application
For
Certification

FCC ID: QISY520-U03A

WCDMA Digital Mobile Phone

Model: HUAWEI Y520-U03

WiFi Transceiver

Report No.: 141120012SZN-004

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-13]

Prepared and Checked by:

Approved by:

Sign on file

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Assitant Engineer

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Senior Project Engineer
Date: December 05, 2014

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
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TRF no.: FCC 15C_Tx_b

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LIST OF EXHIBITS

INTRODUCTION

<i>EXHIBIT 1:</i>	Summary of Tests
<i>EXHIBIT 2:</i>	General Description
<i>EXHIBIT 3:</i>	System Test Configuration
<i>EXHIBIT 4:</i>	Measurement Results
<i>EXHIBIT 5:</i>	Equipment Photographs
<i>EXHIBIT 6:</i>	Product Labeling
<i>EXHIBIT 7:</i>	Technical Specifications
<i>EXHIBIT 8:</i>	Instruction Manual
<i>EXHIBIT 9:</i>	Miscellaneous Information
<i>EXHIBIT 10:</i>	Test Equipment List

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MEASUREMENT/TECHNICAL REPORT

Huawei Technologies Co., Ltd - MODEL: HUAWEI Y520-U03

FCC ID: QISY520-U03A

This report concerns (check one) Original Grant Class II Change

Equipment Type: DTS - Part 15 Digital Transmission Systems (WiFi transmitter portion)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes No

If yes, defer until : _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes No

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-13 Edition] provision.

Report prepared by:

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INTERTEK TESTING SERVICES

Table of Contents

1.0 <u>Summary of test results</u>	2
2.0 <u>General Description</u>	4
2.1 Product Description	4
2.2 Related Submittal(s) Grants	4
2.3 Test Methodology	5
2.4 Test Facility	5
3.0 <u>System Test Configuration</u>	7
3.1 Justification	7
3.2 EUT Exercising Software	7
3.3 Details of EUT and Description of Peripherals	7
3.4 Measurement Uncertainty	8
3.5 Equipment Modification	8
3.6 Support Equipment List and Description	8
4.0 <u>Measurement Results</u>	10
4.1 Maximum Conducted Output Power at Antenna Terminals	10
4.2 Minimum 6dB RF Bandwidth	12
4.3 Maximum Power Density	22
4.4 Out of Band Conducted Emissions	32
4.5 Out of Band Radiated Emissions	53
4.6 Transmitter Radiated Emissions in Restricted Bands	54
4.7 Field Strength Calculation	55
4.8 Radiated Spurious Emission	56
4.9 Conducted Emission	70
4.10 Radiated Emission from Digital Section of Transceiver	73
4.11 Transmitter Duty Cycle Calculation and Measurements	74
5.0 <u>Equipment Photographs</u>	76
6.0 <u>Product Labelling</u>	78
7.0 <u>Technical Specifications</u>	80
8.0 <u>Instruction Manual</u>	82
9.0 <u>Miscellaneous Information</u>	84
10.0 <u>Test Equipment List</u>	86

INTERTEK TESTING SERVICES

List of attached file

Exhibit Type	File Description	Filename
Cover Letter	Letter of Agency	agency.pdf
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf

INTERTEK TESTING SERVICES

EXHIBIT 1

SUMMARY OF TEST RESULTS

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1.0 Summary of Test

Huawei Technologies Co., Ltd - MODEL: HUAWEI Y520-U03

FCC ID: QISY520-U03A

TEST	REFERENCE	RESULTS
Max. Output power	15.247(b)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)

Notes: The EUT uses Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

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EXHIBIT 2

GENERAL DESCRIPTION

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2.0 General Description

2.1 Product Description

The Equipment Under Test (EUT) is a WCDMA Digital Mobile Phone with internal WiFi function operating at 2412-2462MHz for 802.11b/g/n-HT20/n-HT40, 11 channels with 5MHz channel spacing and 2422-2452MHz for 802.11n-HT40, 7 channels with 5MHz channel spacing. It is powered by AC/DC Adapter with input of 100-240Vac, 50/60Hz and output of 5Vdc, 550mA. For more detailed features description, please refer to the user's manual.

Type of Modulation: DBPSK,DQPSK, BPSK,QPSK, 16QAM and 64QAM.
Antenna Type: Integral Antenna.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

2.2 Related Submittal(s) Grants

This is an application for certification of:
DTS- Part 15 Digital Transmission Systems (WiFi transmitter portion)

Remaining portions are subject to the following procedures:

1. Bluetooth FHSS (2.4G band): 141120012SZN-002
2. Bluetooth LE 4.0 (2.4G band): 141120012SZN-003
3. WCDMA Digital Mobile Phone (2G&3G): 141120012SZN-001, RXA1411-0267RF01R1.
4. PC download (Class B personal computer and peripherals): 141120012SZN-005
5. Other function: 141120012SZN-006

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2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009) and KDB 558074. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the “**Justification Section**” of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, Block D, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

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EXHIBIT 3

SYSTEM TEST CONFIGURATION

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3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by AC/DC Adapter (Input: 120Vac, 60Hz, Output: 5Vdc, 550mA), and only the worst case data was recorded in this report.

The simultaneous transmission spurious was tested, only the worst case data was recorded in this report.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:

During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

Power Parameters of IEEE 802.11b/g/n

On 802.11n (20MHz & 40MHz) mode, only one antenna is used for transmission.

We test all data rate and only the worst – case data is shown in the report.

3.3 Special Accessories

One shielded USB cable is attached.

TRF no.: FCC 15C_TX_b

FCC ID: QISY520-U03A

Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Huawei Technologies Co.,Ltd will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch.

3.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List

Description	Manufacturer	Model No.
Earphone (Black)	Goertek	HA1-3
	Quancheng	1293#+3283# 3.5MM-150
	Lianchuang	MEMD1532B528000
Earphone (White)	Merry	EMC323-011-01
	Goertek	HG-04A
USB Cable	/	Data Cable USB A Male to Micro USB, shielded, 100cm
Battery	BYD	HB5V1 (1730mAh)
	LISHEN	
	SUNWODA	HB5V1HV (1950mAh)
	SCUD	
AC/DC Adapter (Huawei)	BYD / HuntKey	HW-050055U1W Input: 100-240Vac, 50/60Hz, 0.2A; Output: 5Vdc, 550mA
	BYD / HuntKey	HW-050055E1W Input: 100-240Vac, 50/60Hz, 0.2A; Output: 5Vdc, 550mA
	BYD / HuntKey	HW-050055B1W Input: 100-240Vac, 50/60Hz, 0.2A; Output: 5Vdc, 550mA
	BYD /UE	HW-050055A1W Input: 100-240Vac, 50/60Hz, 0.2A; Output: 5Vdc, 550mA
	BYD /UE	HW-050055R1W Input: 100-240Vac, 50/60Hz, 0.2A; Output: 5Vdc, 550mA

Note: The Model: HUAWEI Y520-U03 have three different AC/DC Adapter power suppliers, which have already arranged the test accordingly, and only the worst case data was recorded in this report.

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EXHIBIT 4

MEASUREMENT RESULTS

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter have a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

For antennas with gains of 6 dBi or less, maximum allowed Transmitter output is 1 watt (+30 dBm).

IEEE 802.11b (Antenna Gain = 0.3 dBi) (BPSK, 1Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	14.60	28.84
Middle Channel: 2437	14.16	26.06
High Channel: 2462	14.41	27.61

IEEE 802.11g (Antenna Gain =0.3 dBi) (DBPSK, 6Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	11.63	14.55
Middle Channel: 2437	11.81	15.17
High Channel: 2462	12.23	16.71

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IEEE 802.11n 20M (Antenna Gain = 0.3 dBi) (BPSK, 6.5Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	10.13	10.30
Middle Channel: 2437	10.08	10.19
High Channel: 2462	9.83	9.62

IEEE 802.11n 40M (Antenna Gain = 0.3 dBi) (BPSK, 13.5Mbps)		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2422	7.76	5.97
Middle Channel: 2437	7.70	5.89
High Channel: 2452	7.45	5.56

Cable loss: 0.3 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT dBm max. output level = 14.60 dBm

For RF Exposure, the information is saved with filename: sar report.pdf.

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Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a)(2):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RBW was set to 100 KHz according to FCC KDB 558074. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Limit: The 6 dB Bandwidth is at least 500 kHz.

IEEE 802.11b (BPSK, 1Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	10.029
2437	10.029
2462	10.029

IEEE 802.11g (DBPSK, 6Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	16.368
2437	16.368
2462	15.673

IEEE 802.11n 20M (BPSK, 6.5Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	17.453
2437	17.627
2462	16.020

TRF no.: FCC 15C_TX_b

FCC ID: QISY520-U03A

Report No.: 141120012SZN-004

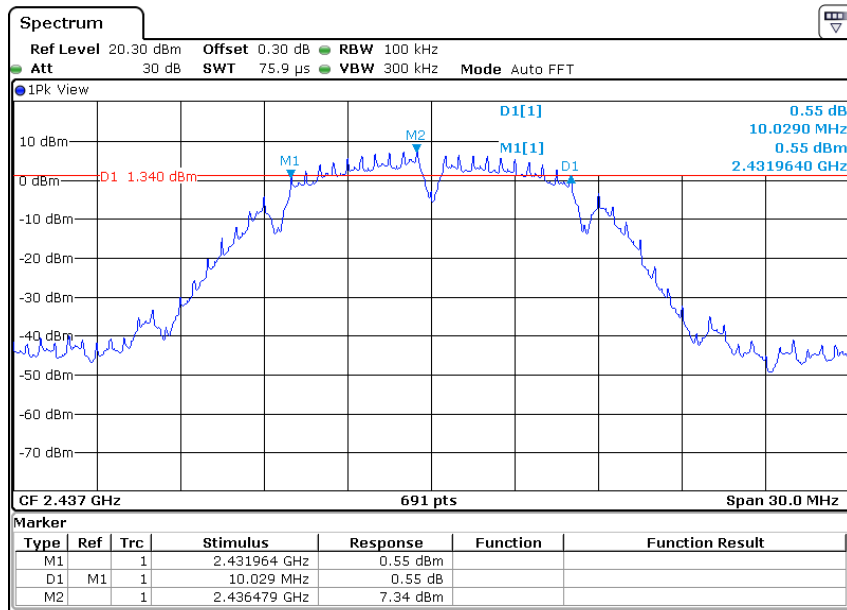
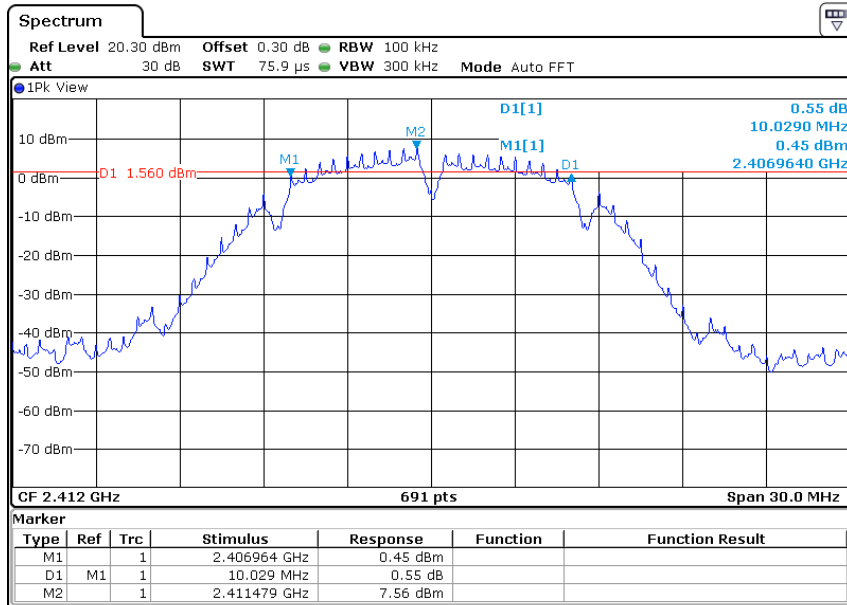
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IEEE 802.11n 40M (BPSK, 13.5Mbps)	
Frequency (MHz)	6 dB Bandwidth (MHz)
2422	36.035
2437	36.035
2452	35.868

The test plots are attached as below.

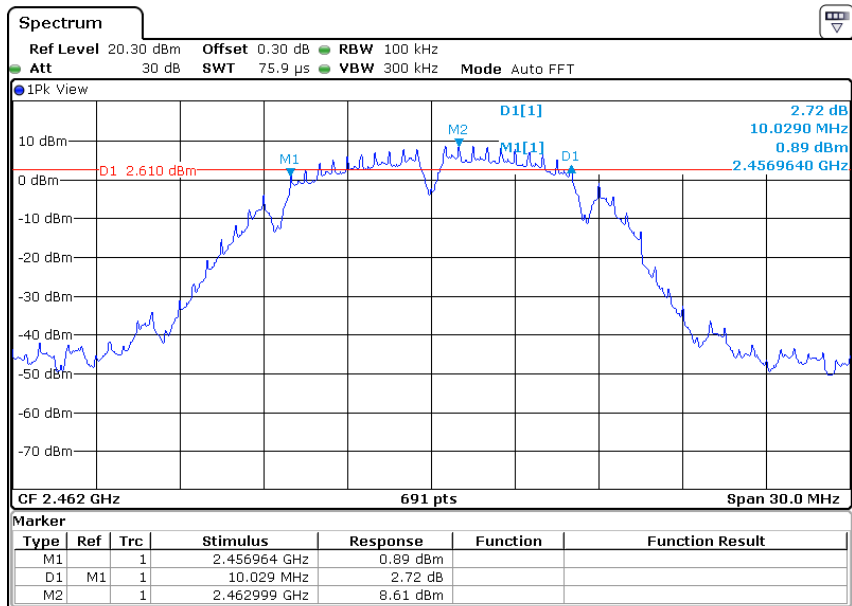
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802.11b



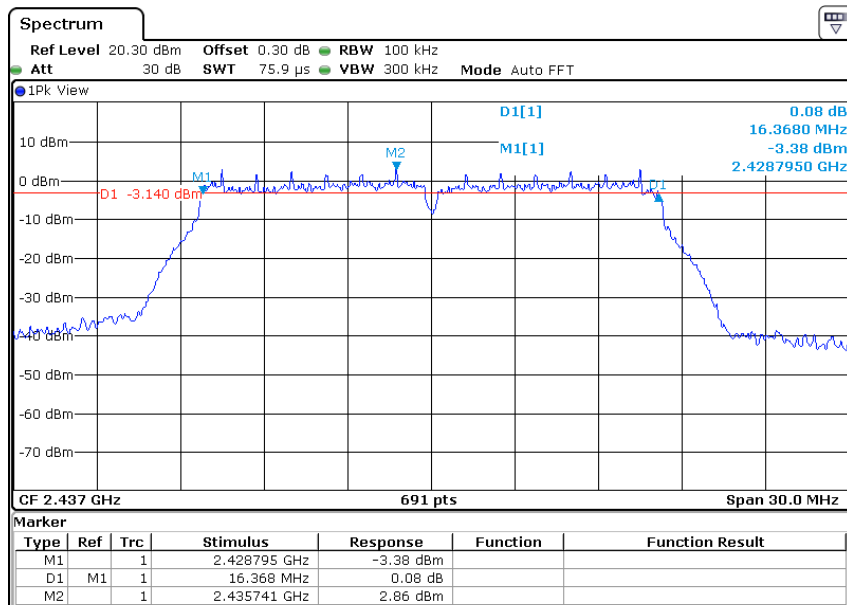
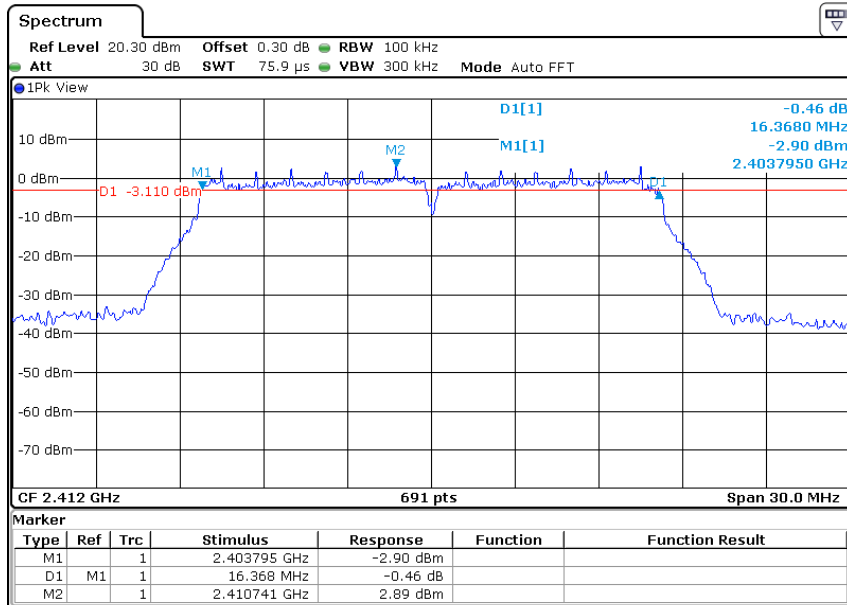
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 FCC ID: QISY520-U03A
 Report No.: 141120012SZN-004

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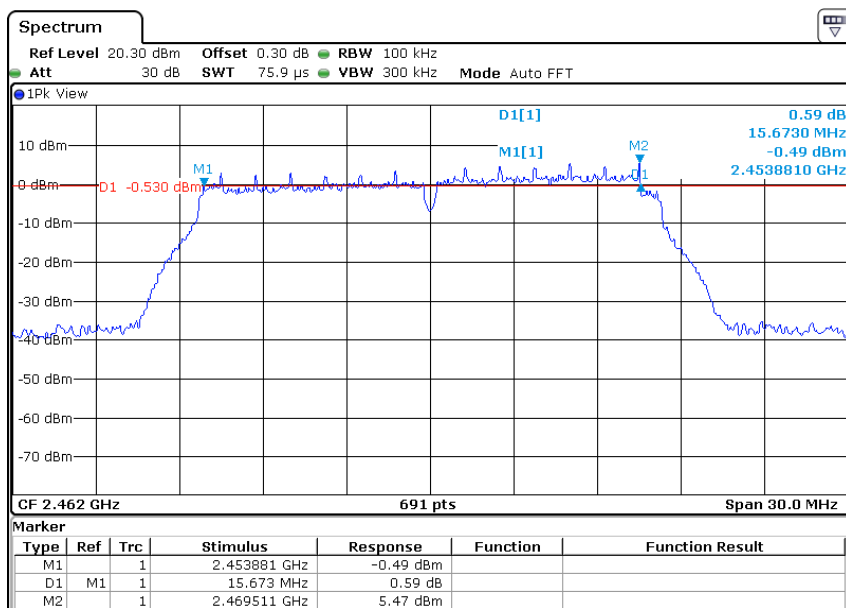
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802.11g



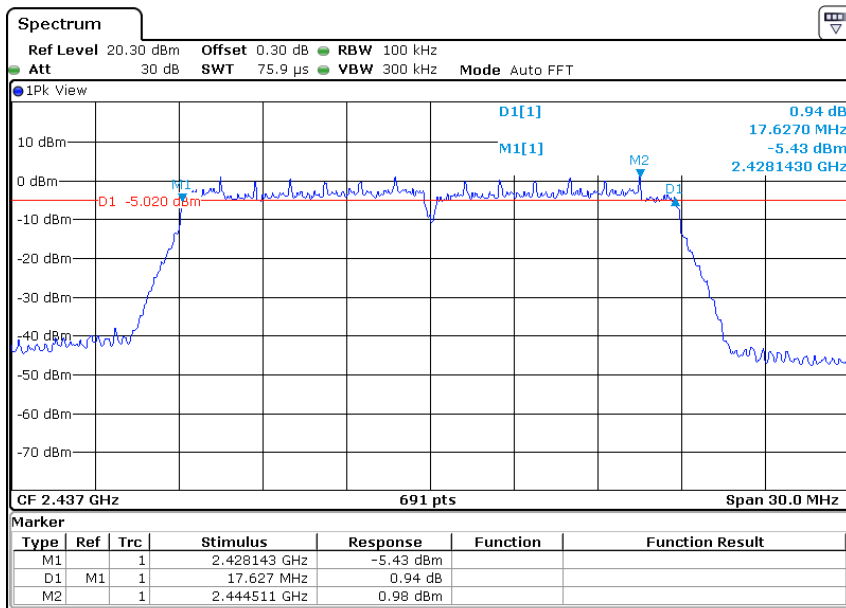
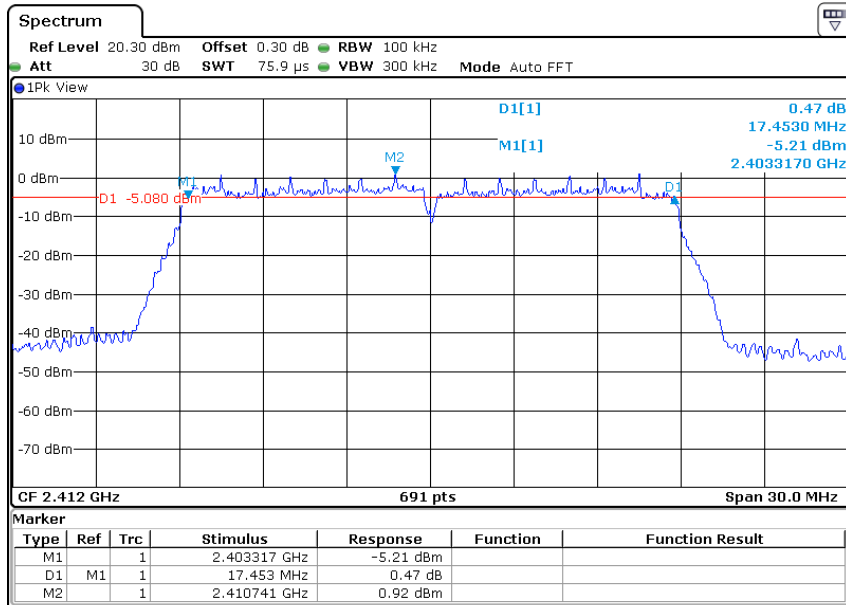
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 FCC ID: QISY520-U03A
 Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



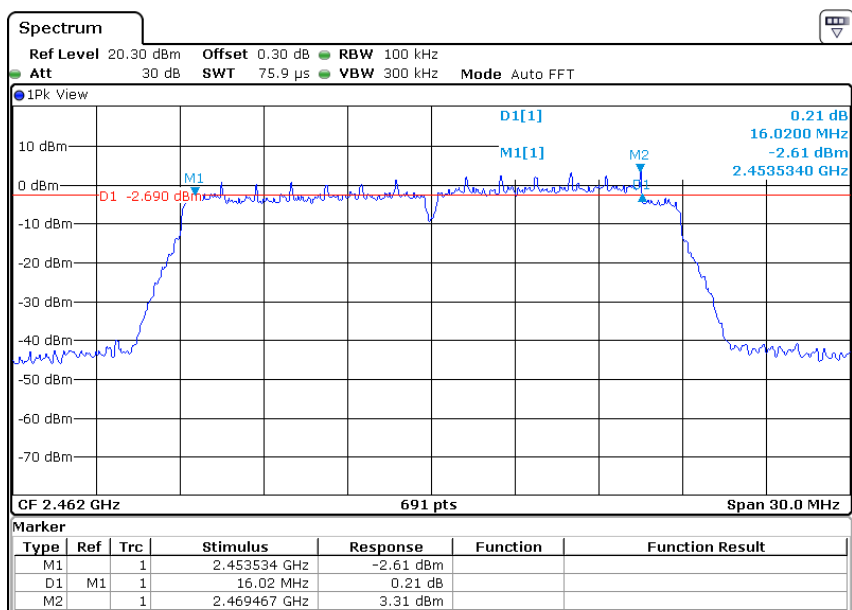
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802.11n-HT20



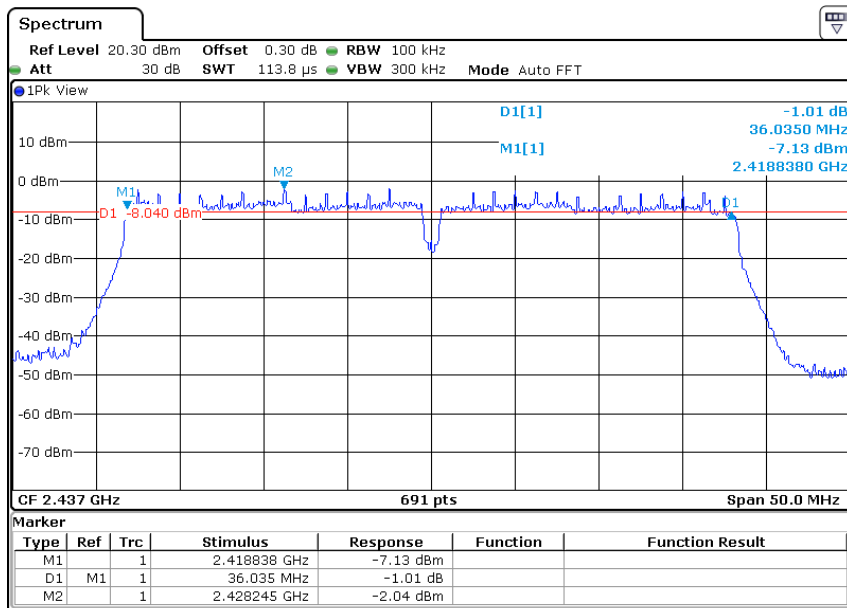
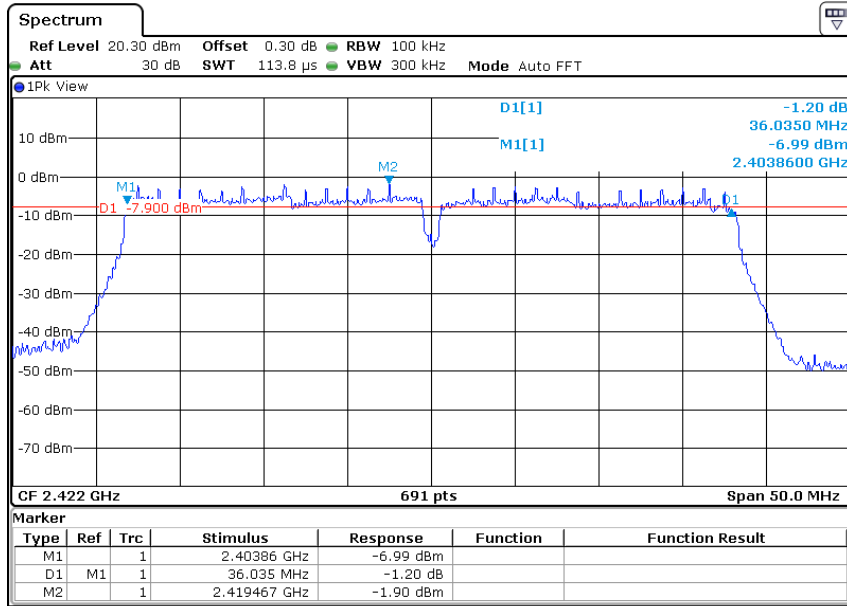
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 Report No.: 141120012SZN-004

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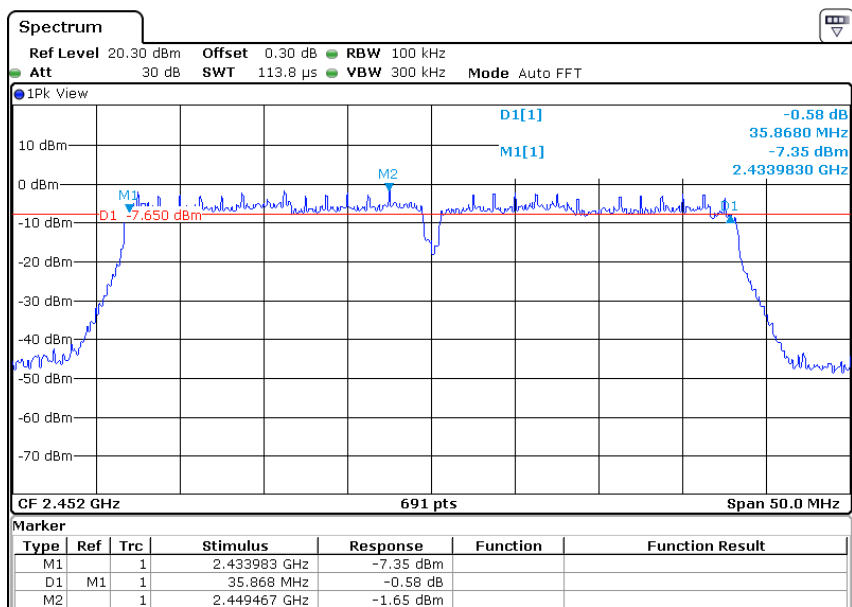
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802.11n-HT40



TRF no.: FCC 15C_TX_b
 FCC ID: QISY520-U03A
 Report No.: 141120012SZN-004

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Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Limit: The Power Density does not exceed 8dBm/ 3 kHz.

IEEE 802.11b (BPSK, 1Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	6.58
2437	6.60
2462	7.27

IEEE 802.11g (DBPSK, 6Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	3.22
2437	3.58
2462	3.68

IEEE 802.11n 20M (BPSK, 6.5Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2412	1.48
2437	1.68
2462	1.88

TRF no.: FCC 15C_TX_b

FCC ID: QISY520-U03A

Report No.: 141120012SZN-004

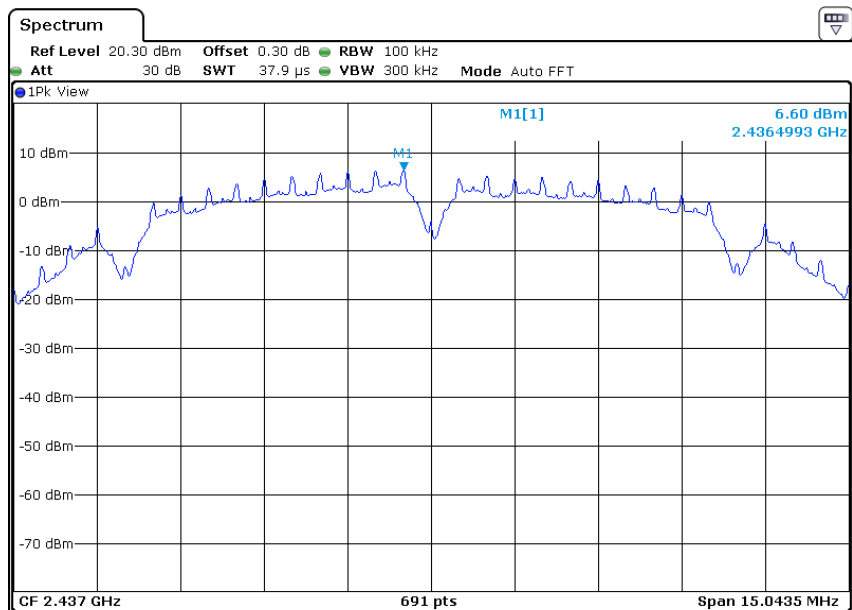
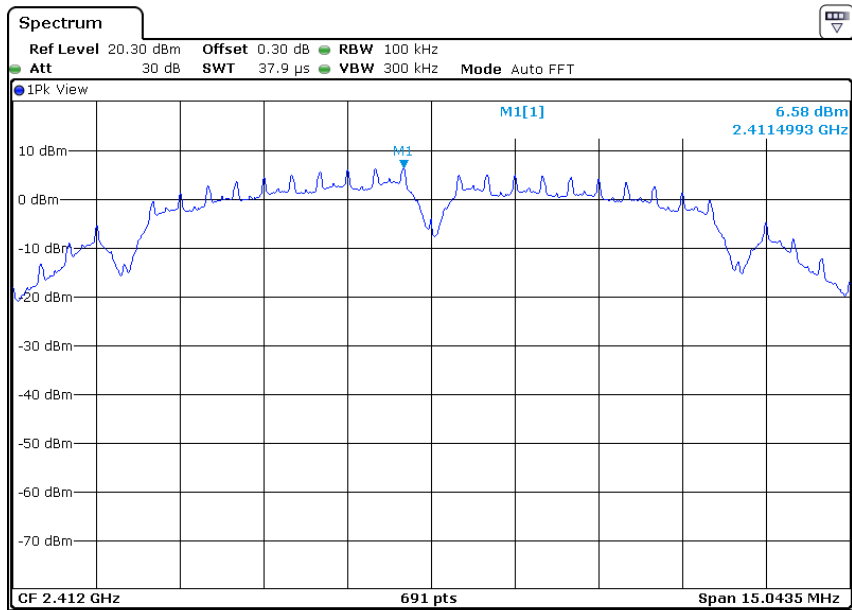
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IEEE 802.11n 40M (BPSK, 13.5Mbps)	
Frequency (MHz)	Power Density with RBW 100KHz
2422	-1.79
2437	-1.59
2452	0.02

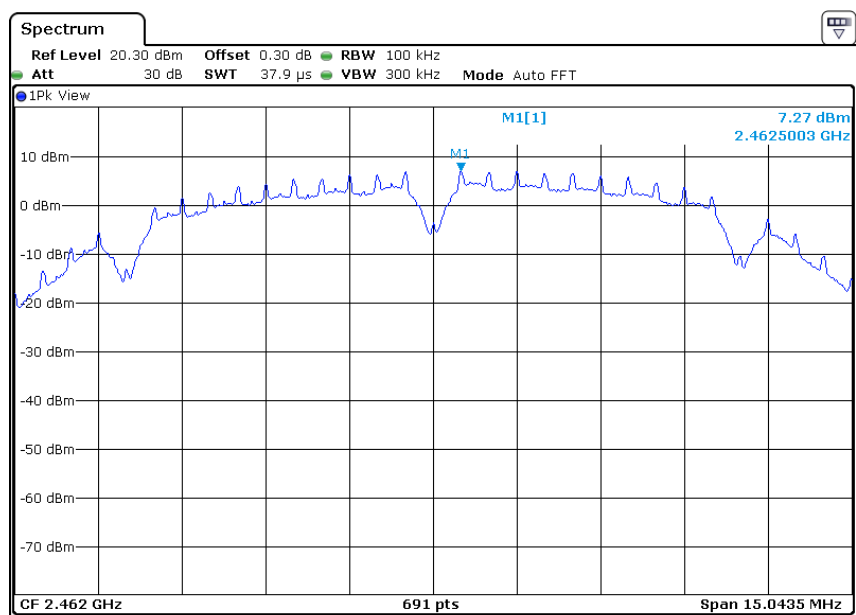
The test plots are attached as below.

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802.11b

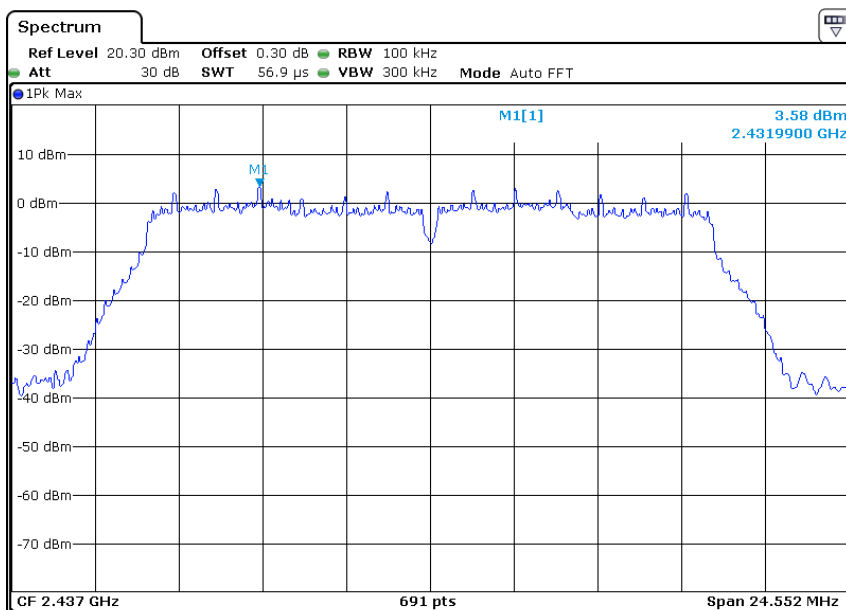
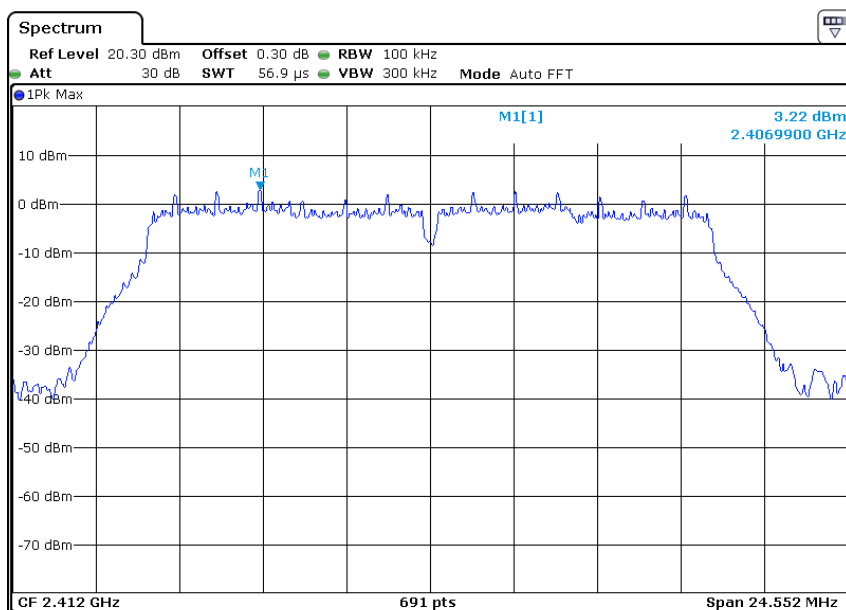


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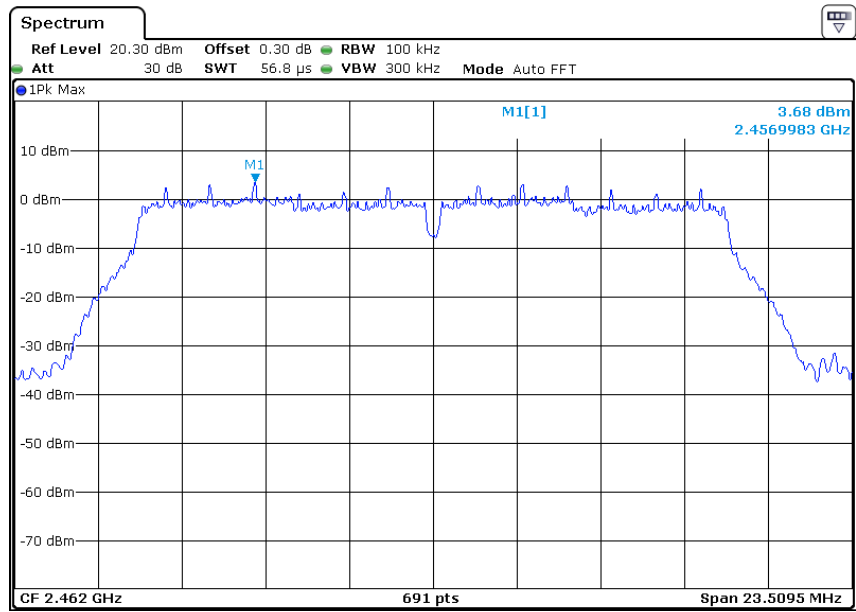
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802.11g



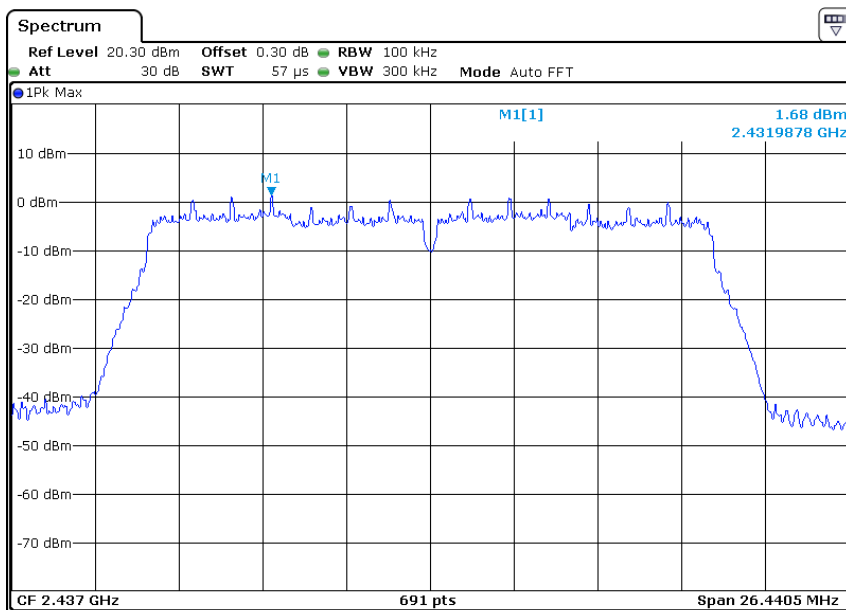
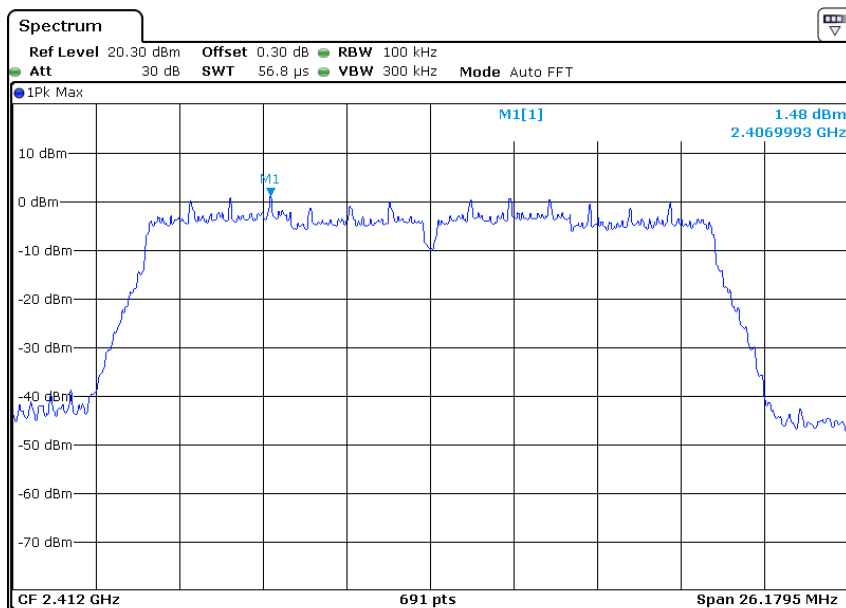
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INTERTEK TESTING SERVICES



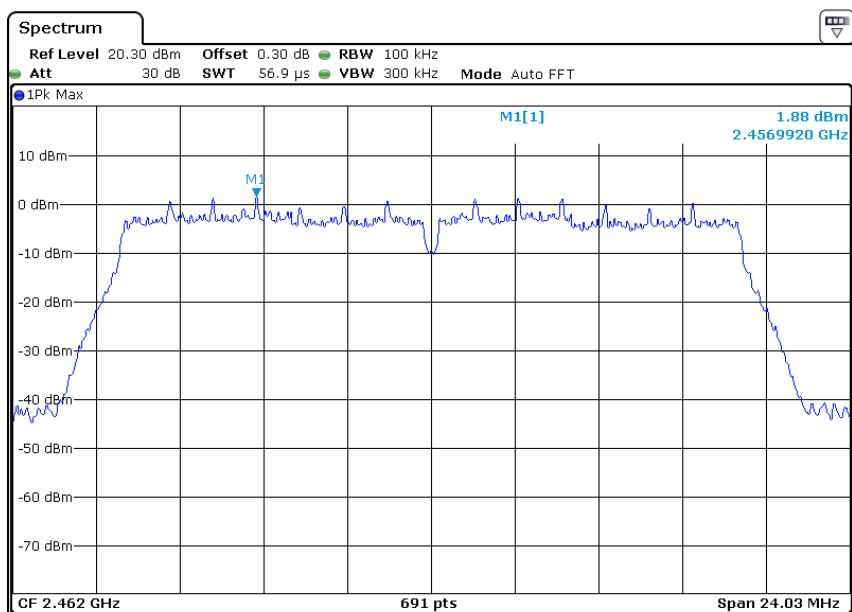
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802.11n-HT20



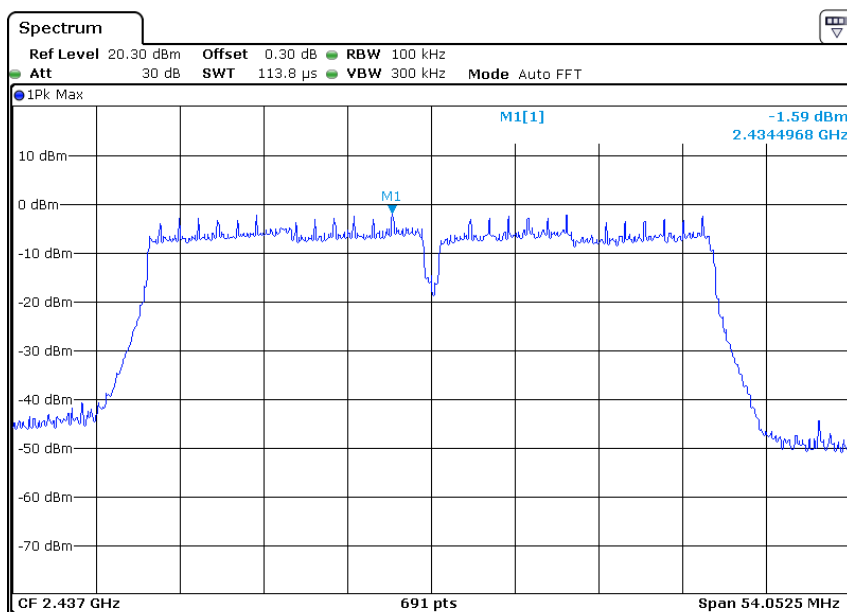
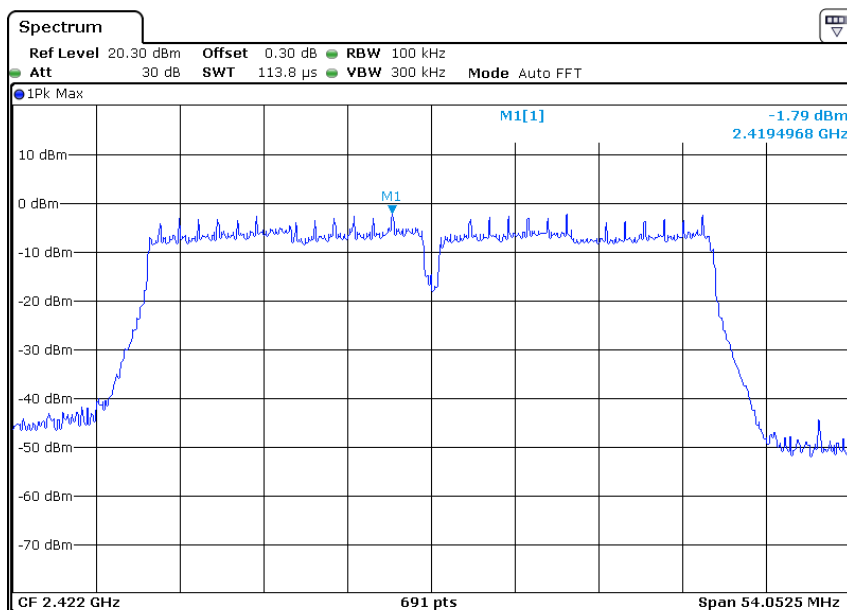
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FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

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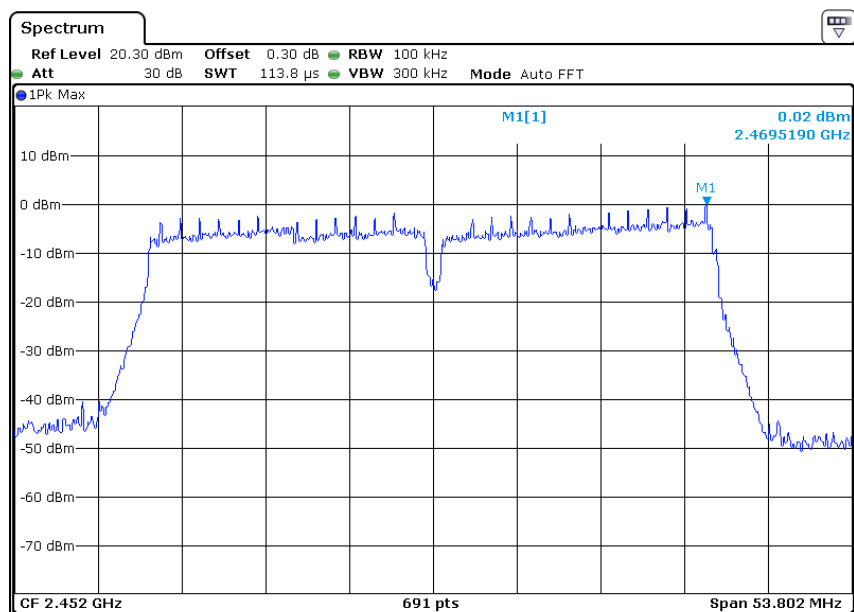
INTERTEK TESTING SERVICES

802.11n-HT40



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Date of Test: December 03, 2014
Model: HUAWEI Y520-U03

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20dB below that of the maximum in-band 100 kHz emission, or else shall meet the general limits for radiated emissions at frequencies outside the passband, whichever results in lower attenuation. The Measurement Procedure was set according to the FCC KDB 558074.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

Refer to the attached test plot for out of band conducted emissions data with rate of 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n HT20 and 13.5Mbps for 802.11n HT40.

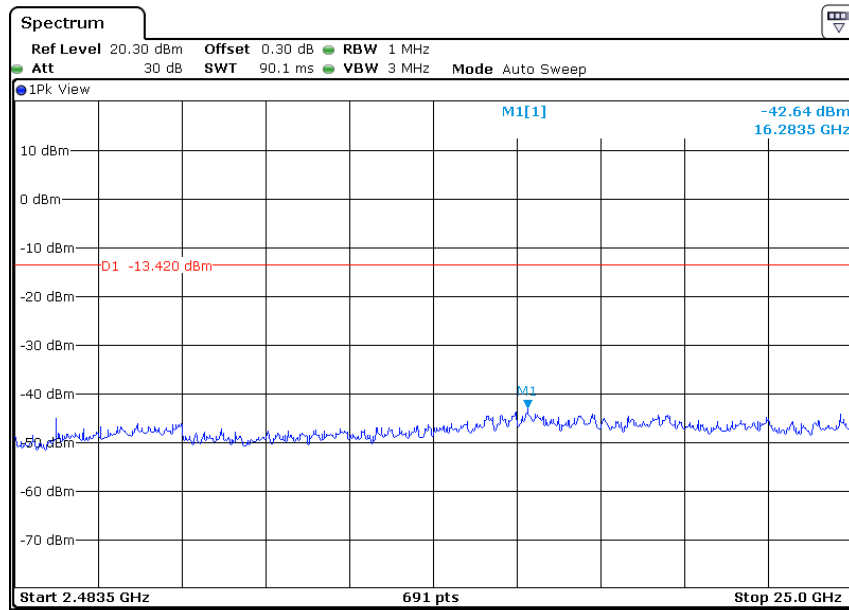
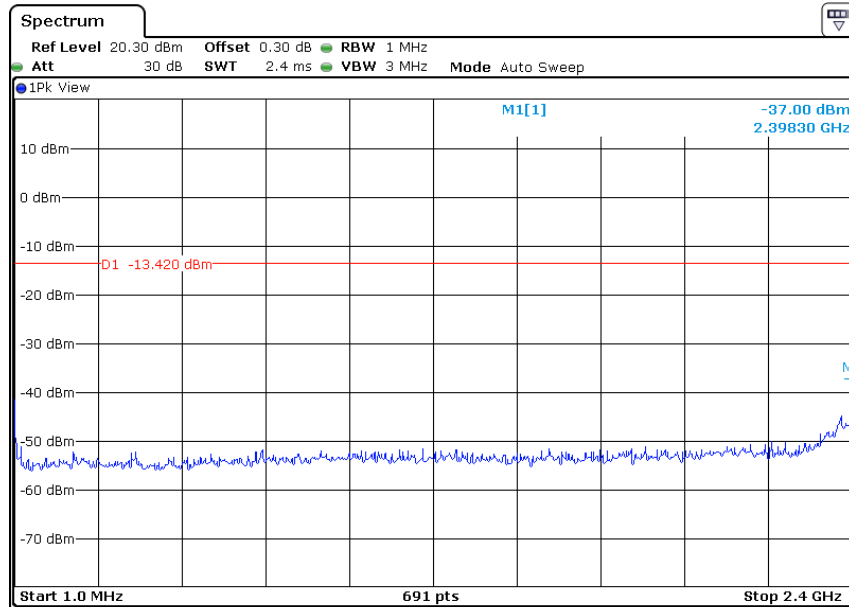
The test plots showed all spurious emission and up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

The test plots are attached as below.

INTERTEK TESTING SERVICES

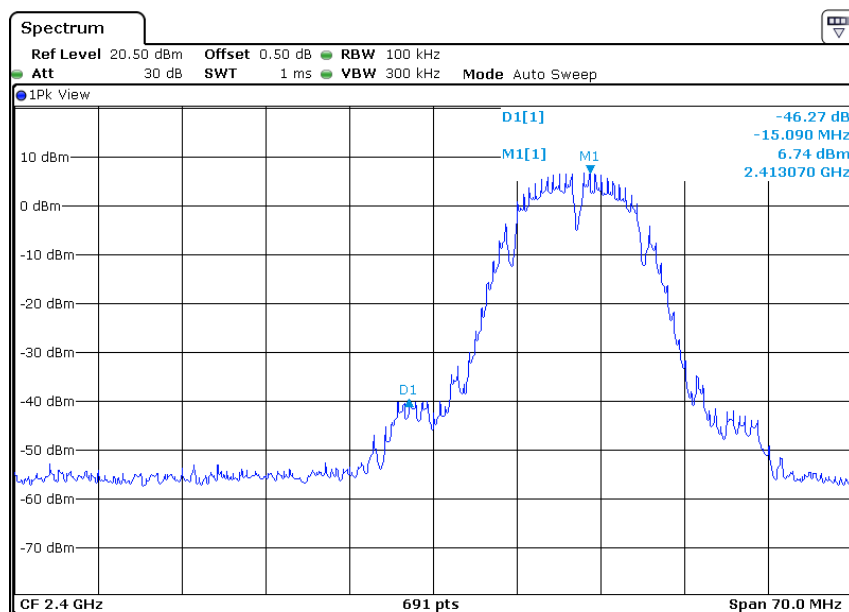
802.11b

Channel 1 (2412MHz) Reference Level: 6.58dBm



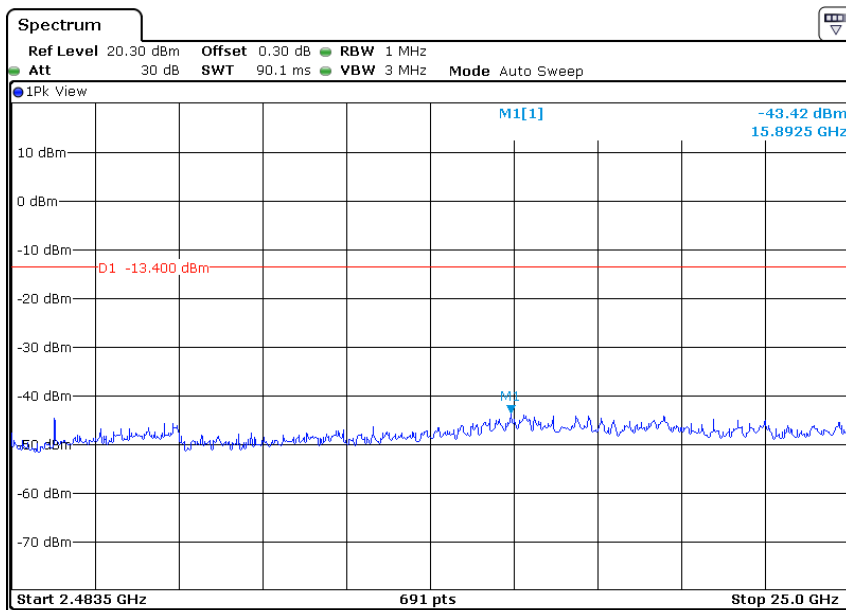
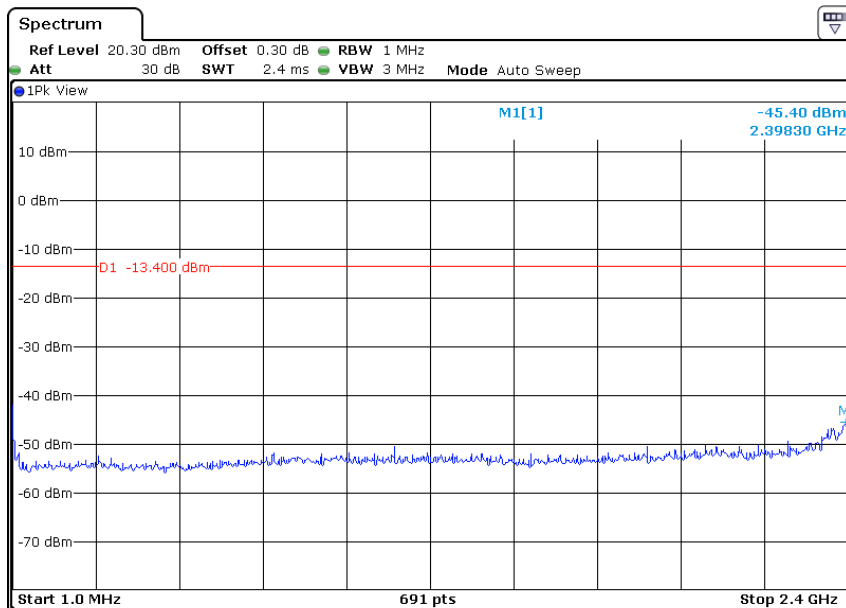
TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

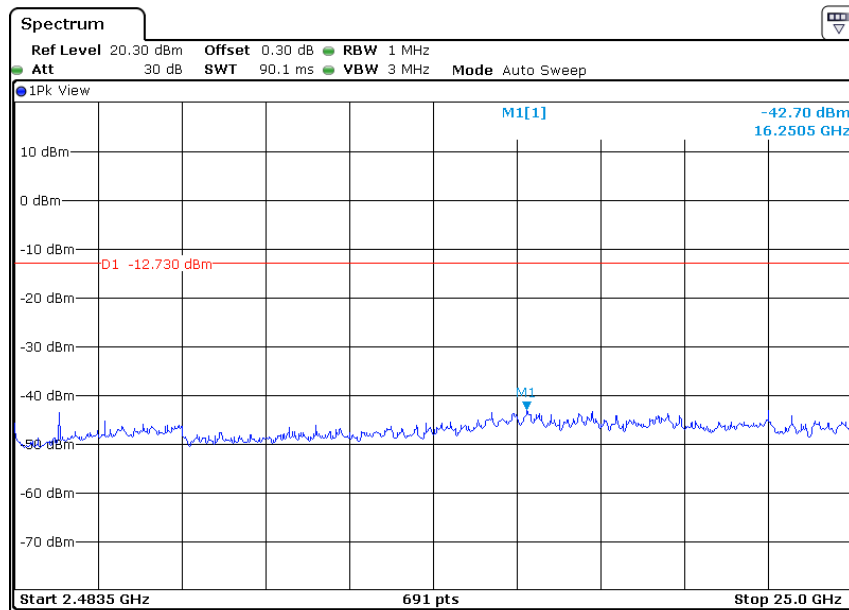
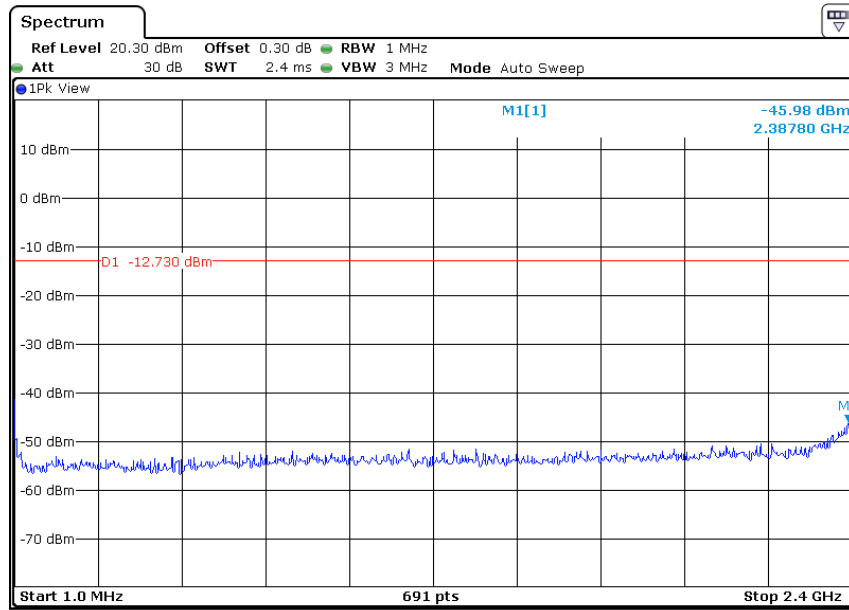
Channel 6 (2437MHz) Reference Level: 6.60dBm



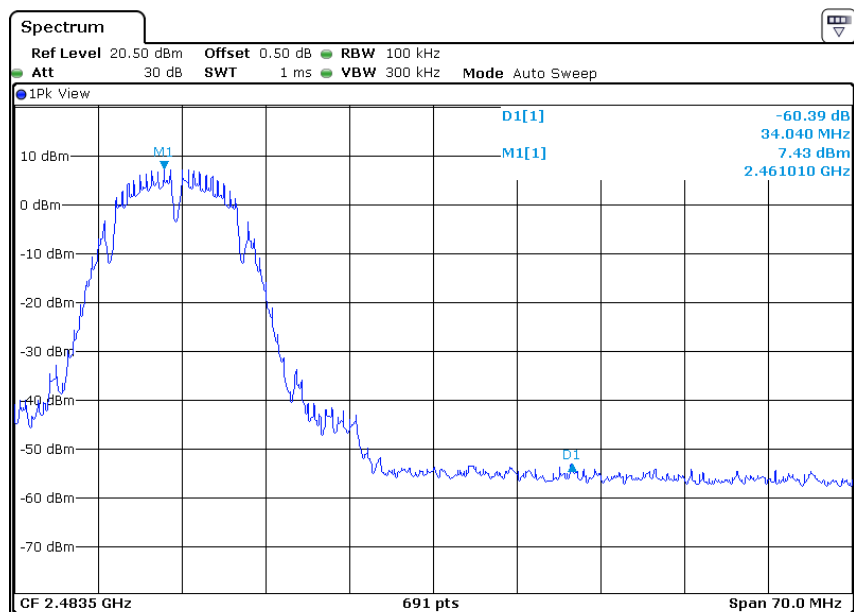
TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

Channel 11 (2462MHz) Reference Level: 7.27dBm



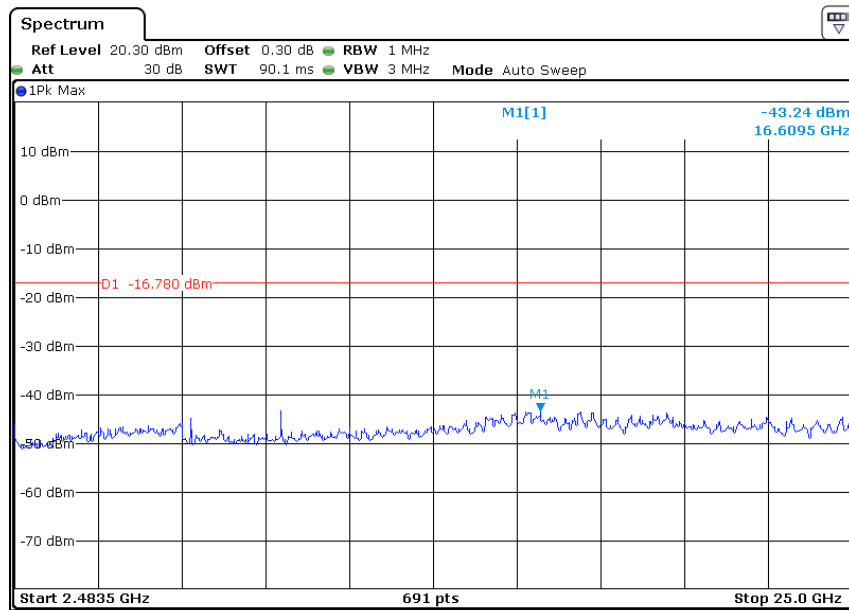
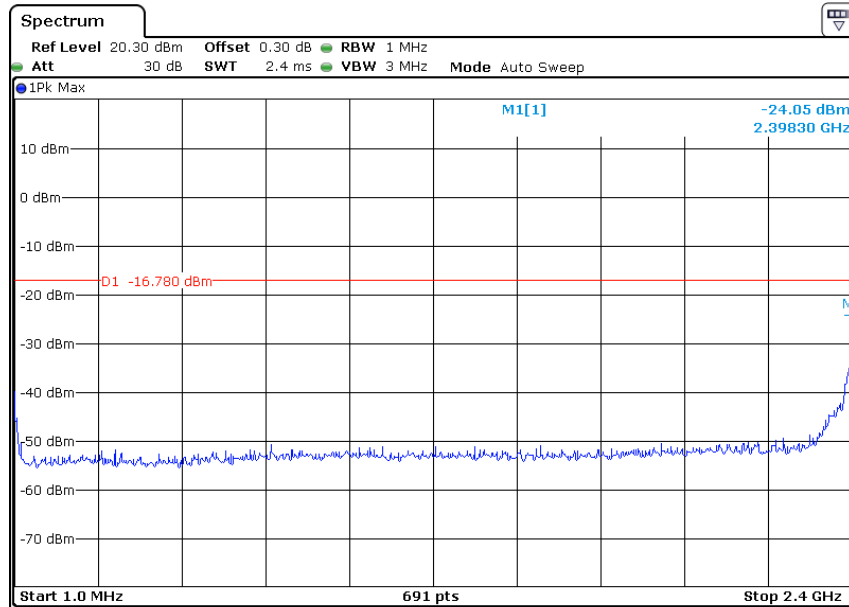
INTERTEK TESTING SERVICES



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

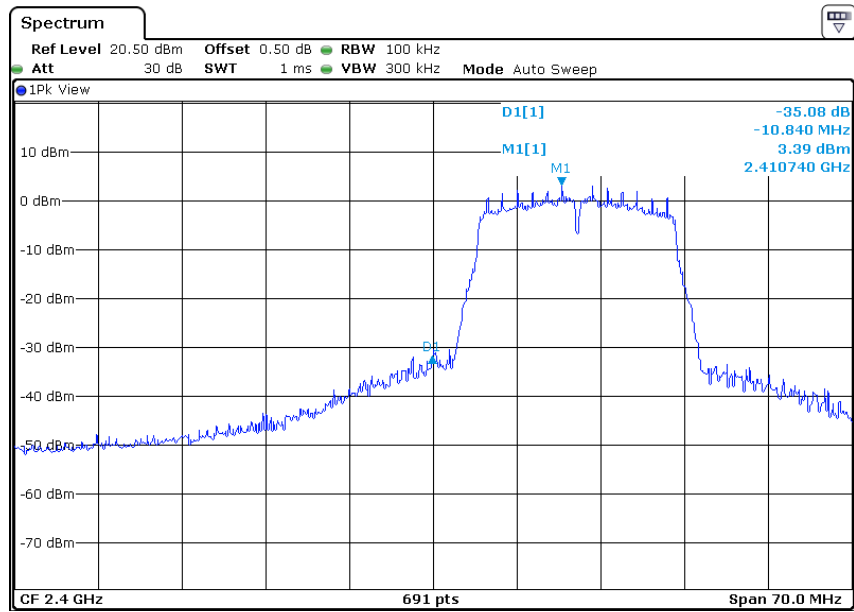
INTERTEK TESTING SERVICES

802.11g
Channel 1 (2412MHz) Reference Level: 3.22dBm



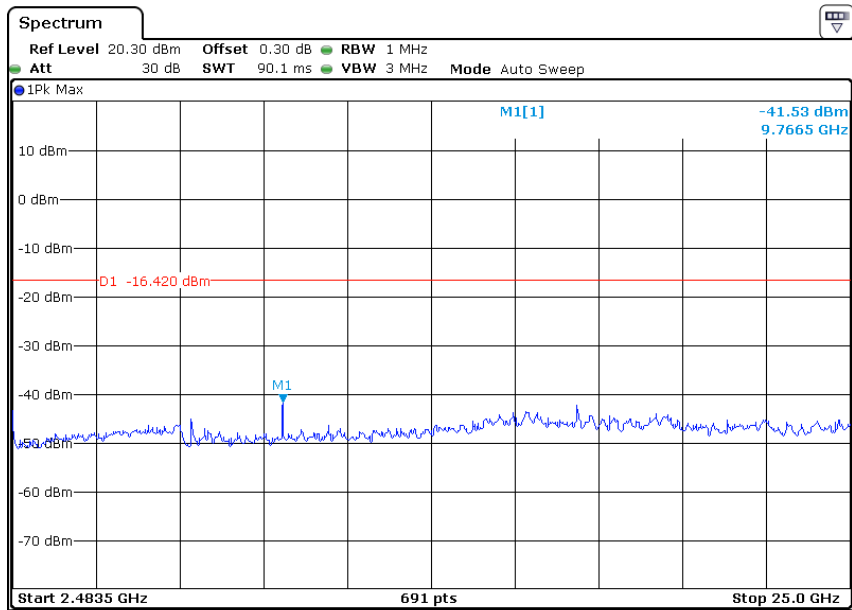
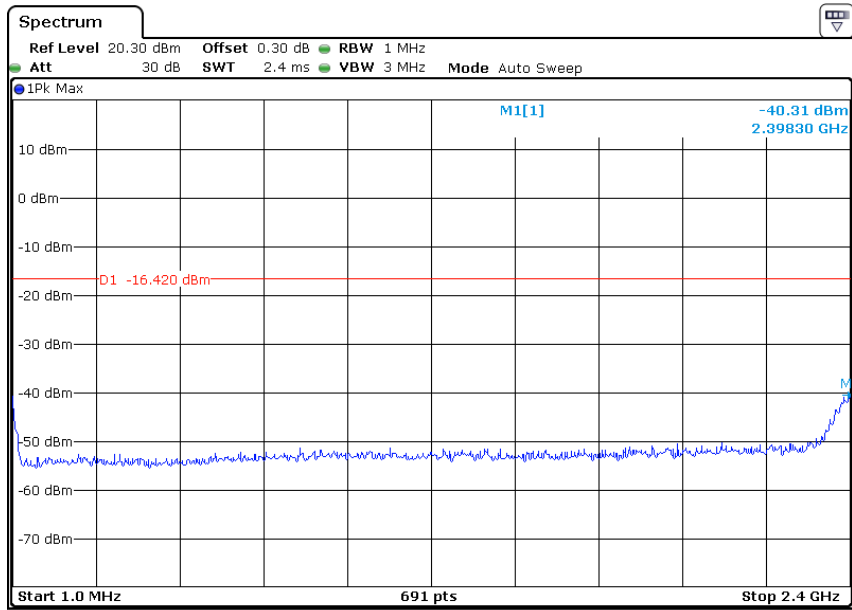
TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

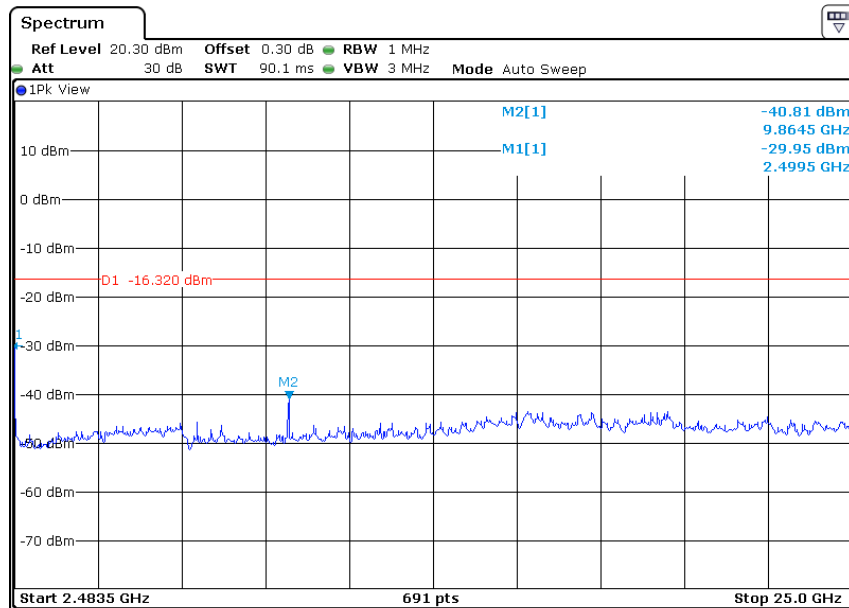
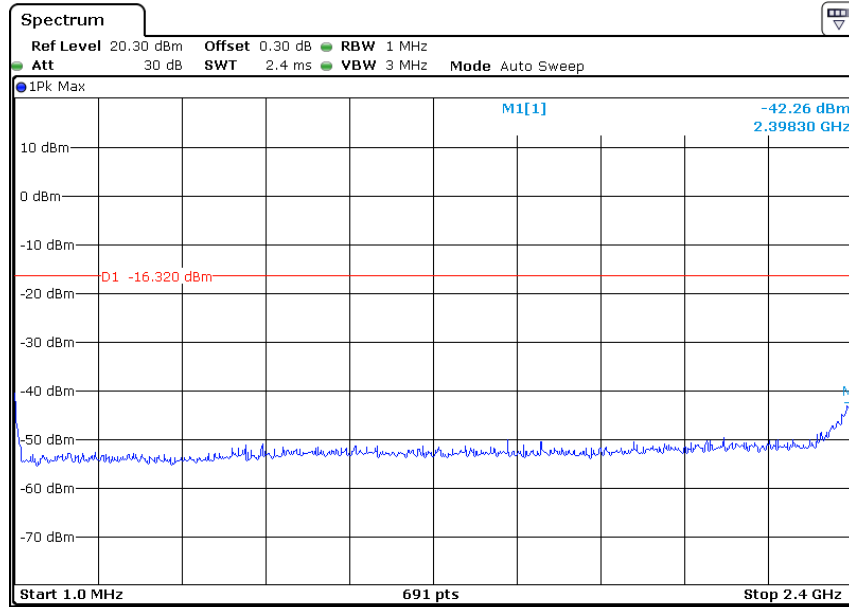
Channel 6 (2437MHz) Reference Level: 3.58dBm



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

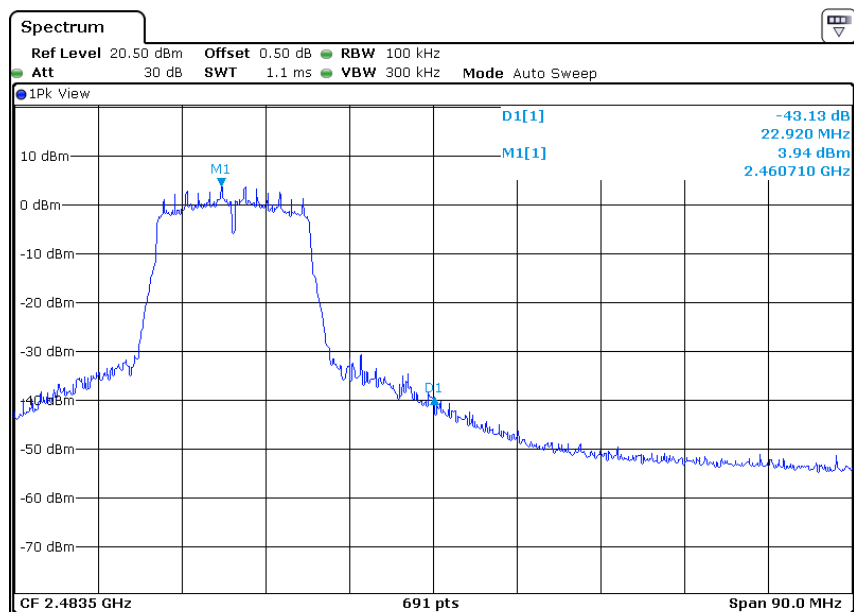
INTERTEK TESTING SERVICES

Channel 11 (2462MHz) Reference Level: 3.68dBm



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

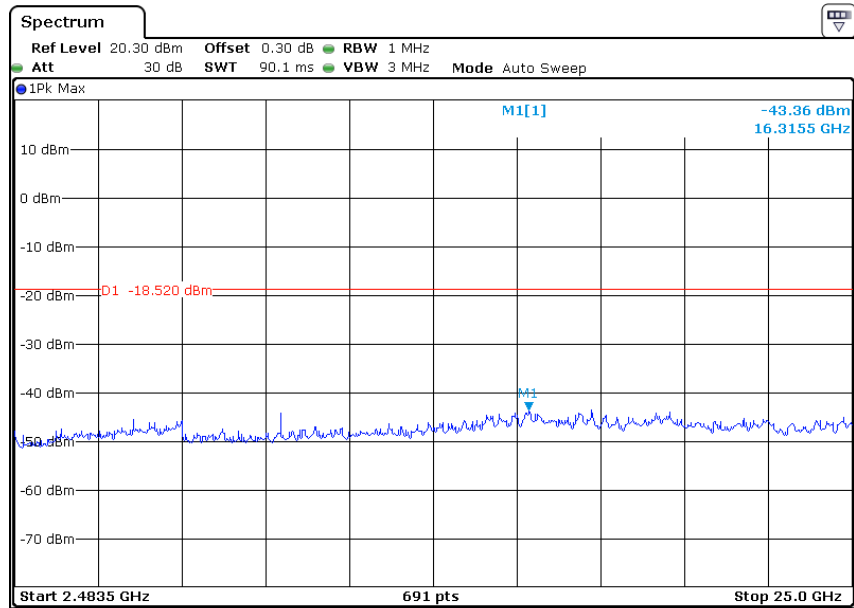
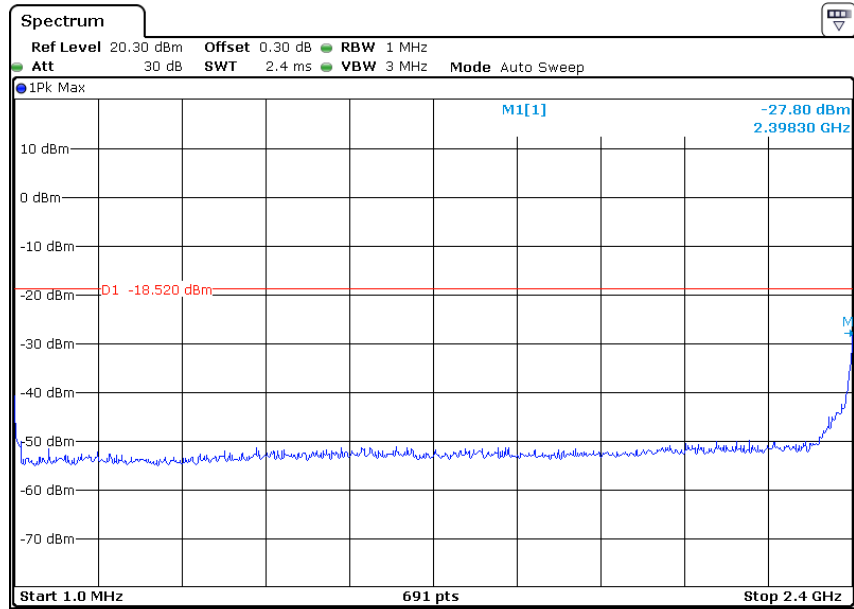
INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

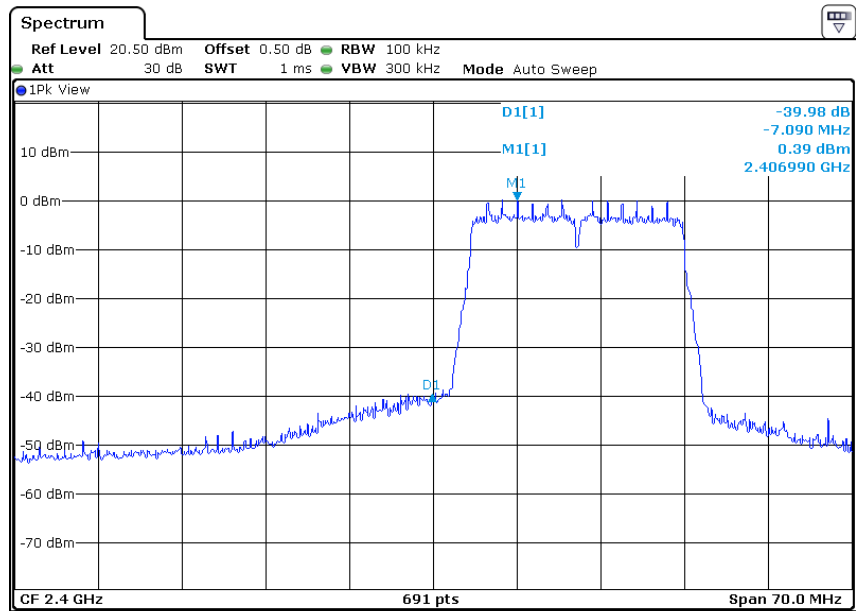
802.11n-HT20

Channel 1 (2412MHz) Reference Level: 1.48dBm



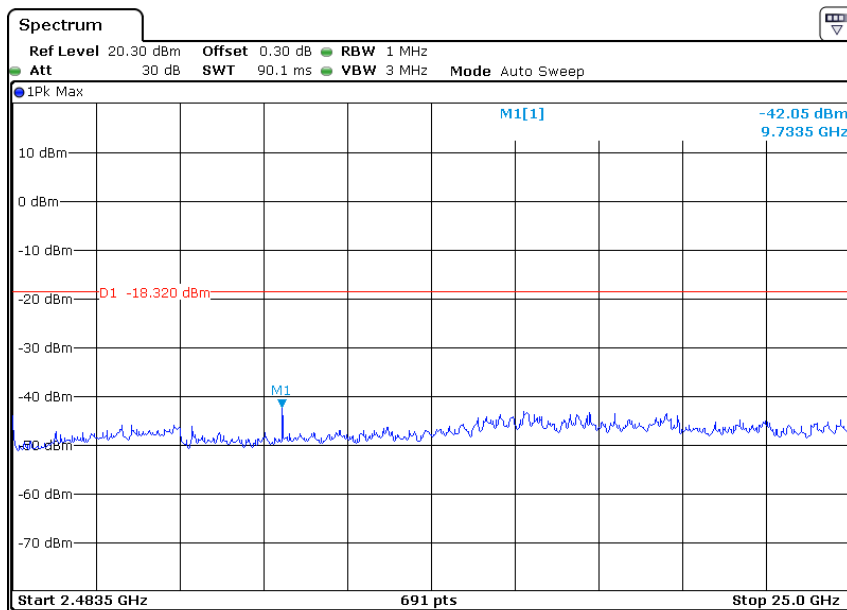
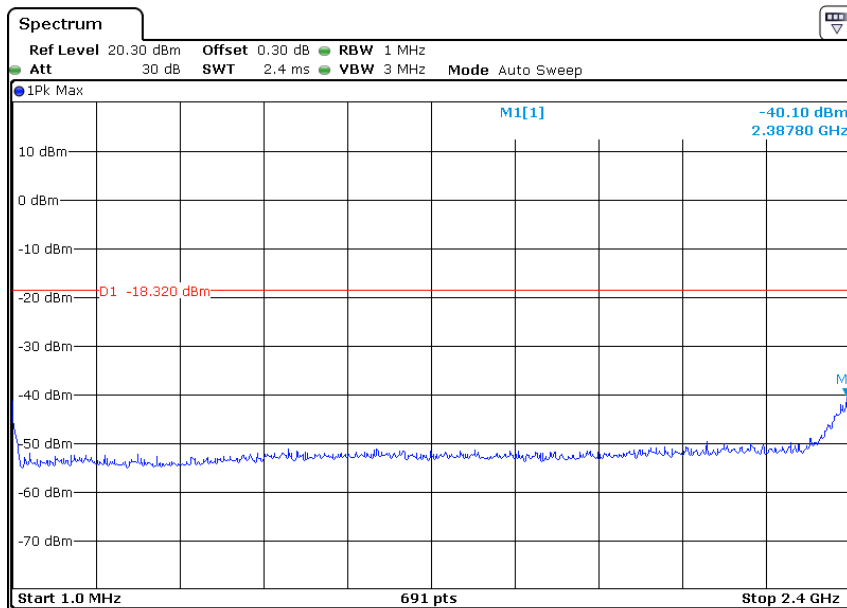
TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

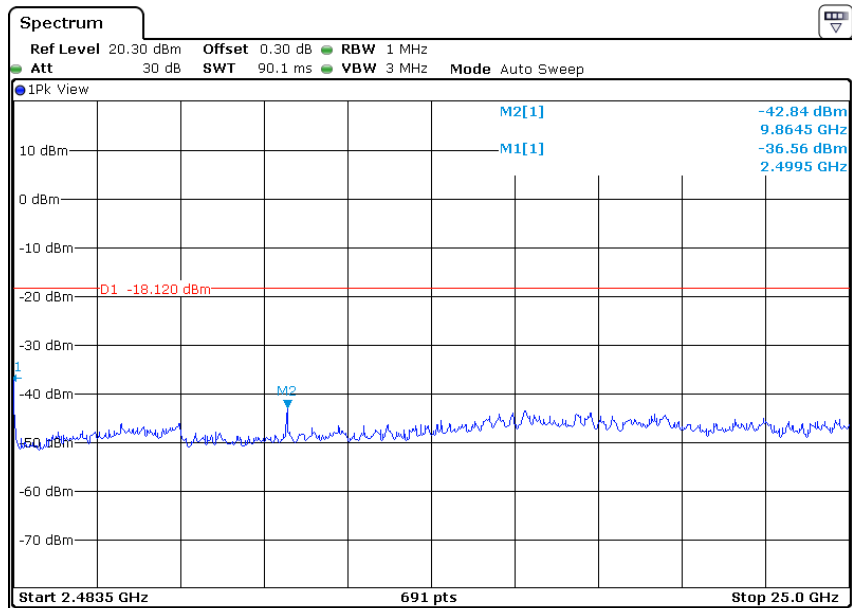
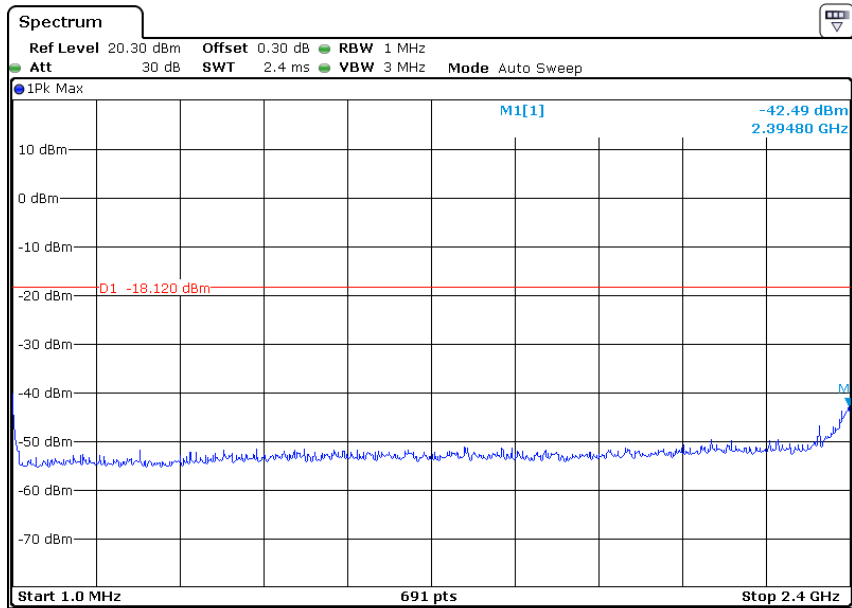
Channel 6 (2437MHz) Reference Level: 1.68dBm



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

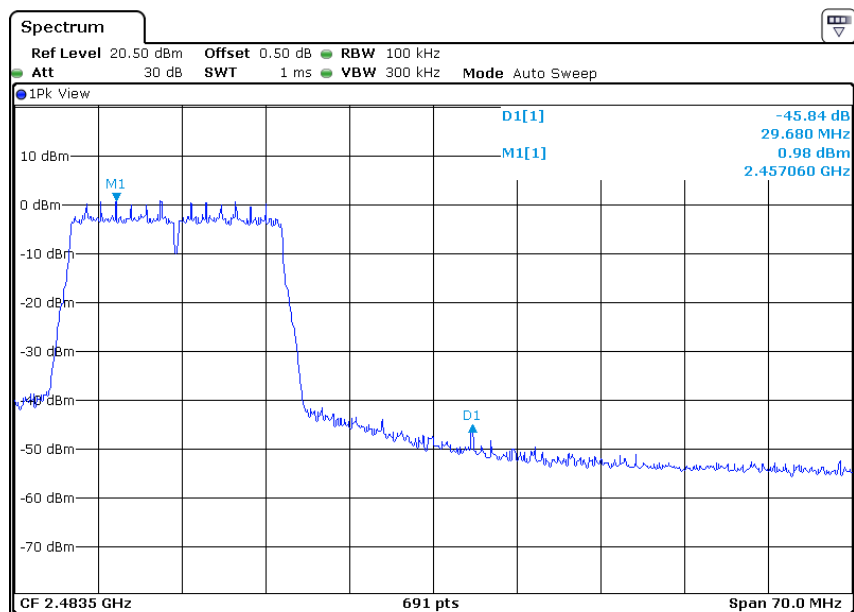
INTERTEK TESTING SERVICES

Channel 11 (2462MHz) Reference Level: 1.88dBm



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

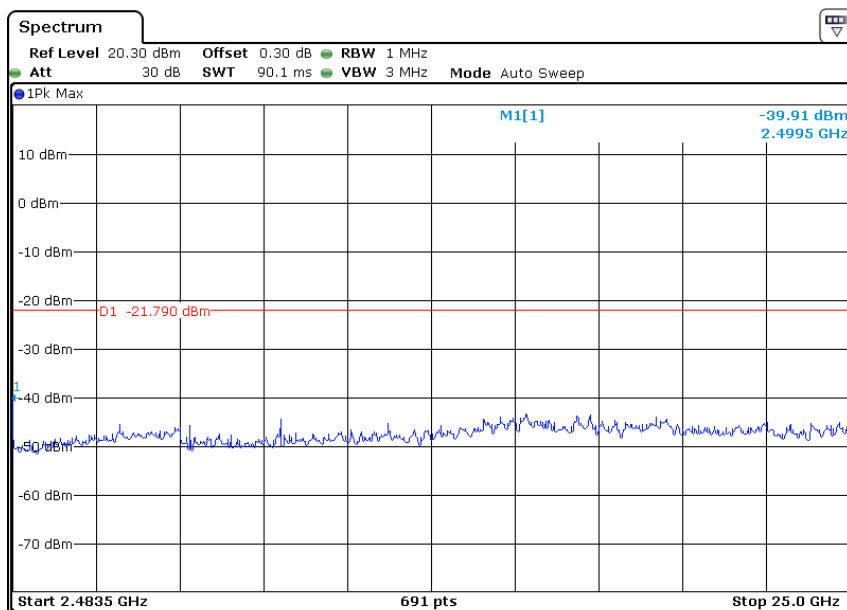
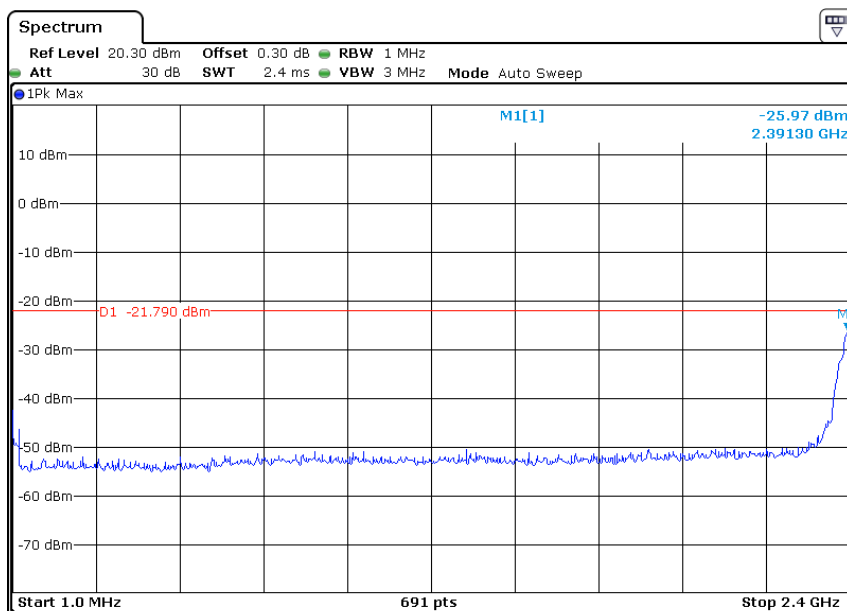


TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

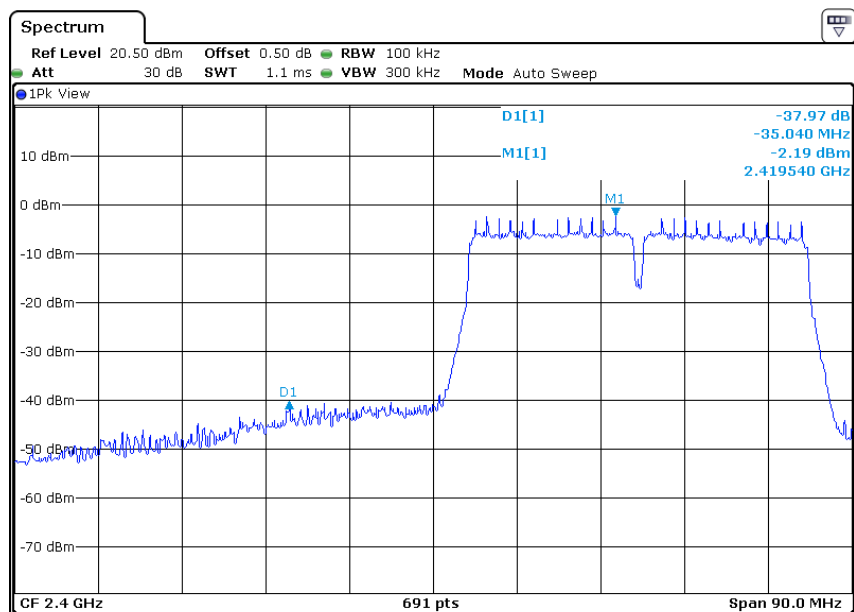
802.11n-HT40

Channel 3 (2422MHz) Reference Level: -1.79dBm



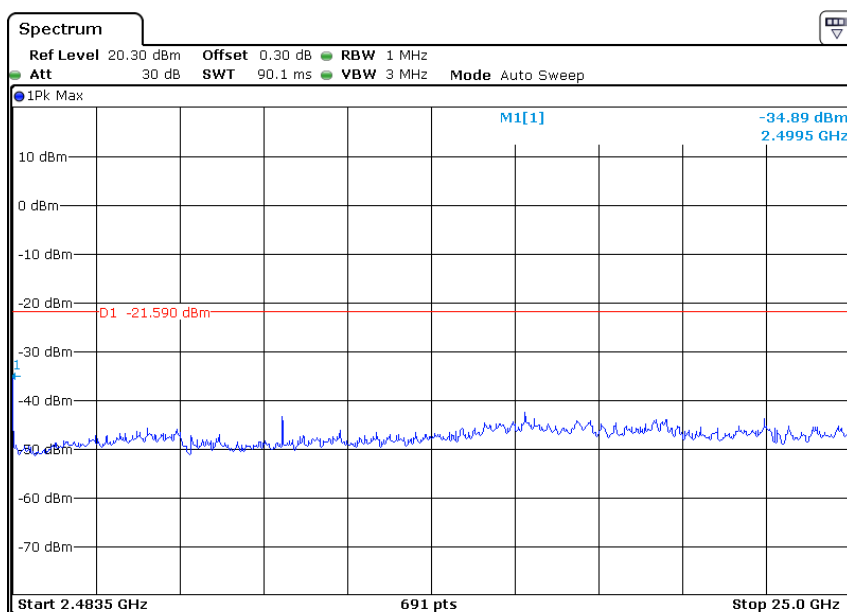
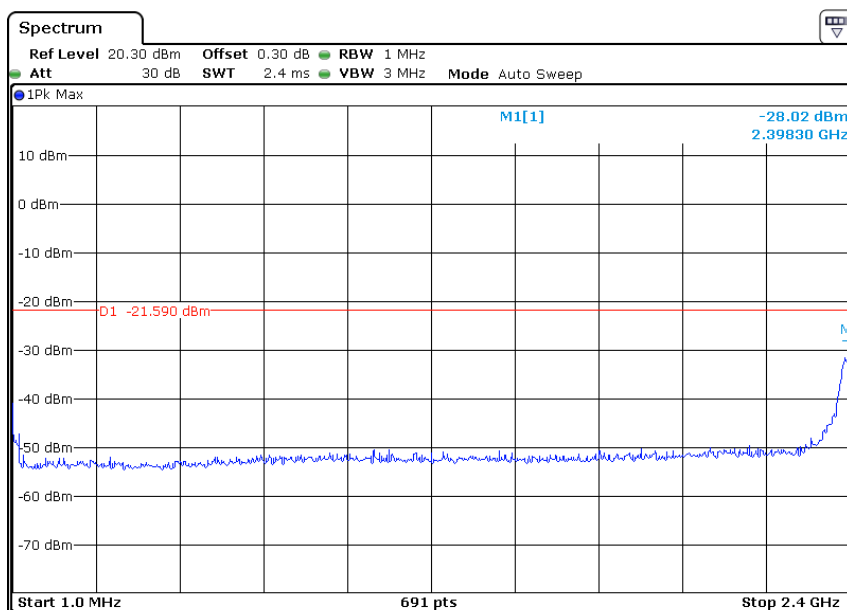
TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

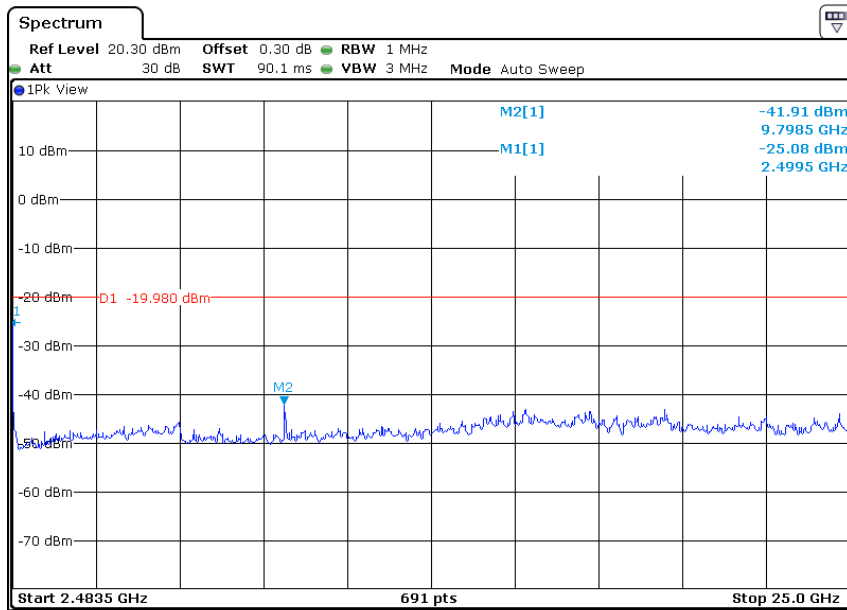
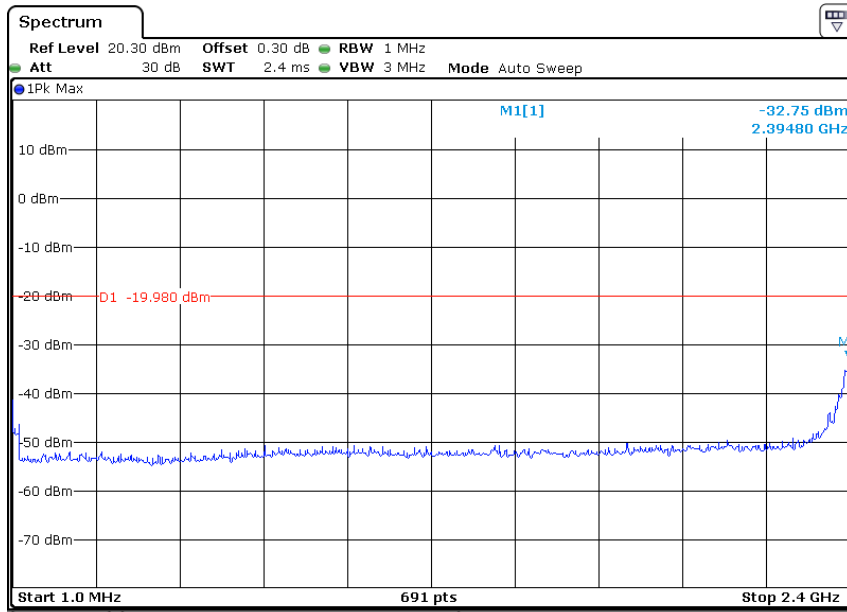
Channel 6 (2437MHz) Reference Level: -1.59dBm



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

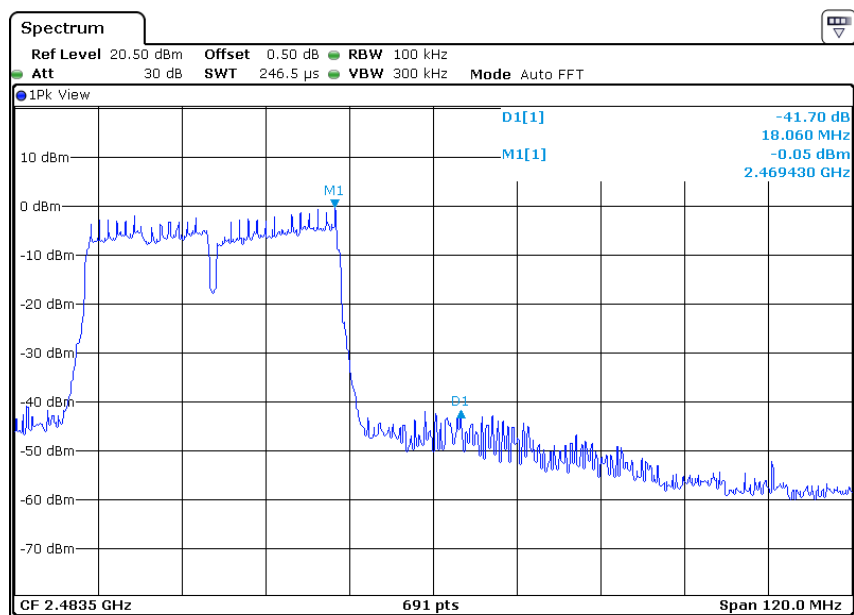
INTERTEK TESTING SERVICES

Channel 9 (2452MHz) Reference Level: 0.02dBm



TRF no.: FCC 15C_TX_b
FCC ID: QISY520-U03A
Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES



INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

Not required, since all emissions are more than 20dB below fundamental

See attached data sheet

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Model: HUAWEI Y520-U03

4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b), (c):

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Model: HUAWEI Y520-U03

4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD$$

Where

- FS = Field Strength in dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB
- PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD$$

Example

Assume a receiver reading of 62.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 42 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$\begin{aligned} RA &= 62.0 \text{ dB}\mu\text{V} \\ AF &= 7.4 \text{ dB} \\ CF &= 1.6 \text{ dB} \\ AG &= 29.0 \text{ dB} \\ PD &= 0 \text{ dB} \\ FS &= 62 + 7.4 + 1.6 - 29 + 0 = 42 \text{ dB}\mu\text{V/m} \end{aligned}$$

$$\text{Level in mV/m} = \text{Common Antilogarithm} [(42 \text{ dB}\mu\text{V/m})/20] = 125.9 \mu\text{V/m}$$

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
Model: HUAWEI Y520-U03

4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission (802.11n-HT40 (Channel 03)) at 2389.827 MHz is passed by 3.1 dB margin. (Simultaneous transmission spurious was considered)

For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

Worst Case Operating Mode: 802.11n-HT20 (TX-Channel 11)

AC/DC Adapter: UE (HW-050055R1W)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	31.940	23.5	20.0	18.9	22.4	40.0	-17.6
Horizontal	96.930	29.6	20.0	12.1	21.7	43.5	-21.8
Horizontal	466.500	34.8	20.0	12.7	27.5	46.0	-18.5
Vertical	30.020	34.1	20.0	18.9	33.0	40.0	-7.0
Vertical	39.215	31.9	20.0	15.3	27.2	40.0	-12.8
Vertical	45.520	39.8	20.0	9.2	29.0	40.0	-11.0

NOTES: 1. Quasi-Peak detector is used except for others stated.

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. All emissions are below the QP limit.

TRF no.: FCC 15C_TX_b

FCC ID: QISY520-U03A

Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11b (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4824.000	52.5	36.7	34.2	50.0	74.0	-24.0
Horizontal	*7236.000	56.0	36.7	36.9	56.2	74.0	-17.8
Horizontal	*2389.483	72.3	36.2	28.2	64.3	74.0	-9.7

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4824.000	37.5	36.7	34.2	35.0	54.0	-19.0
Horizontal	*7236.000	41.6	36.7	36.9	41.8	54.0	-12.2
Horizontal	*2389.483	55.8	36.2	28.2	47.8	54.0	-6.2

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11b (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	52.3	36.7	34.6	50.2	74.0	-23.8
Horizontal	*7311.000	56.1	36.7	37.1	56.5	74.0	-17.5

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	37.4	36.7	34.6	35.3	54.0	-18.7
Horizontal	*7311.000	41.6	36.7	37.1	42.0	54.0	-12.0

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11b (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4924.000	52.9	36.7	34.6	50.8	74.0	-23.2
Horizontal	*7386.000	55.7	36.7	37.2	56.2	74.0	-17.8
Horizontal	*2483.659	66.5	36.2	28.0	58.3	74.0	-15.7

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4924.000	38.2	36.7	34.6	36.1	54.0	-17.9
Horizontal	*7386.000	41.6	36.7	37.2	42.1	54.0	-11.9
Horizontal	*2483.659	57.0	36.2	28.0	48.8	54.0	-5.2

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11g (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4824.000	53.3	36.7	34.2	50.8	74.0	-23.2
Horizontal	*7236.000	57.0	36.7	36.9	57.2	74.0	-16.8
Horizontal	*2389.054	76.6	36.2	27.8	68.2	74.0	-5.8

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4824.000	38.3	36.7	34.2	35.8	54.0	-18.2
Horizontal	*7236.000	41.8	36.7	36.9	42.0	54.0	-12.0
Horizontal	*2389.054	57.8	36.2	27.8	49.4	54.0	-4.6

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11g (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	53.1	36.7	34.6	51.0	74.0	-23.0
Horizontal	*7311.000	56.5	36.7	37.1	56.9	74.0	-17.1

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	38.3	36.7	34.6	36.2	54.0	-17.8
Horizontal	*7311.000	41.4	36.7	37.1	41.8	54.0	-12.2

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11g (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4924.000	52.6	36.7	34.6	50.5	74.0	-23.5
Horizontal	*7386.000	56.7	36.7	37.2	57.2	74.0	-16.8
Horizontal	*2483.690	76.1	36.2	28.0	67.9	74.0	-6.1

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4924.000	38.6	36.7	34.6	36.5	54.0	-17.5
Horizontal	*7386.000	42.0	36.7	37.2	42.5	54.0	-11.5
Horizontal	*2483.690	56.2	36.2	28.0	48.0	54.0	-6.0

- NOTES:
1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11n-HT20 (TX-Channel 01)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4824.000	52.0	36.7	34.2	49.5	74.0	-24.5
Horizontal	*7236.000	56.0	36.7	36.9	56.2	74.0	-17.8
Horizontal	*2389.932	75.9	36.2	27.8	67.5	74.0	-6.5

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4824.000	38.3	36.7	34.2	35.8	54.0	-18.2
Horizontal	*7236.000	41.7	36.7	36.9	41.9	54.0	-12.1
Horizontal	*2389.932	57.6	36.2	27.8	49.2	54.0	-4.8

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11n-HT20 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	52.7	36.7	34.2	50.2	74.0	-23.8
Horizontal	*7311.000	56.6	36.7	37.1	57.0	74.0	-17.0

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	38.9	36.7	34.2	36.4	54.0	-17.6
Horizontal	*7311.000	41.8	36.7	37.1	42.2	54.0	-11.8

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11n-HT20 (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4924.000	51.9	36.7	34.6	49.8	74.0	-24.2
Horizontal	*7386.000	56.1	36.7	37.2	56.6	74.0	-17.4
Horizontal	*2483.559	77.6	36.2	27.8	69.2	74.0	-4.8

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4924.000	38.3	36.7	34.6	36.2	54.0	-17.8
Horizontal	*7386.000	41.3	36.7	37.2	41.8	54.0	-12.2
Horizontal	*2483.559	55.3	36.2	27.8	46.9	54.0	-7.1

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11n-HT40 (TX-Channel 03)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4844.000	52.4	36.7	34.2	49.9	74.0	-24.1
Horizontal	*7266.000	55.7	36.7	37.1	56.1	74.0	-17.9
Horizontal	*2389.827	78.4	36.2	27.7	69.9	74.0	-4.1

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4844.000	38.3	36.7	34.2	35.8	54.0	-18.2
Horizontal	*7266.000	41.8	36.7	37.1	42.2	54.0	-11.8
Horizontal	*2389.827	59.4	36.2	27.7	50.9	54.0	-3.1

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11n-HT40 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	52.7	36.7	34.2	50.2	74.0	-23.8
Horizontal	*7311.000	56.4	36.7	37.1	56.8	74.0	-17.2

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4874.000	38.6	36.7	34.2	36.1	54.0	-17.9
Horizontal	*7311.000	42.1	36.7	37.1	42.5	54.0	-11.5

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Mode: 802.11n-HT40 (TX-Channel 9)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Peak Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4904.000	52.6	36.7	34.6	50.5	74.0	-23.5
Horizontal	*7356.000	56.2	36.7	37.0	56.5	74.0	-17.5
Horizontal	2483.602	76.2	36.2	28.0	68.0	74.0	-6.0

Polarization	Frequency (MHz)	Reading (dB μ V)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dB μ V/m)	Average Limit at 3m (dB μ V/m)	Margin (dB)
Horizontal	*4904.000	38.5	36.7	34.6	36.4	54.0	-17.6
Horizontal	*7356.000	41.8	36.7	37.0	42.1	54.0	-11.9
Horizontal	*2483.602	54.0	36.2	28.0	45.8	54.0	-8.2

- NOTES: 1. Peak detector is used for the emission measurement (RBW=1MHz, VBW=3MHz for Peak data; RBW=1MHz, VBW=10Hz for Average data).
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

INTERTEK TESTING SERVICES

4.9 Conducted Emission

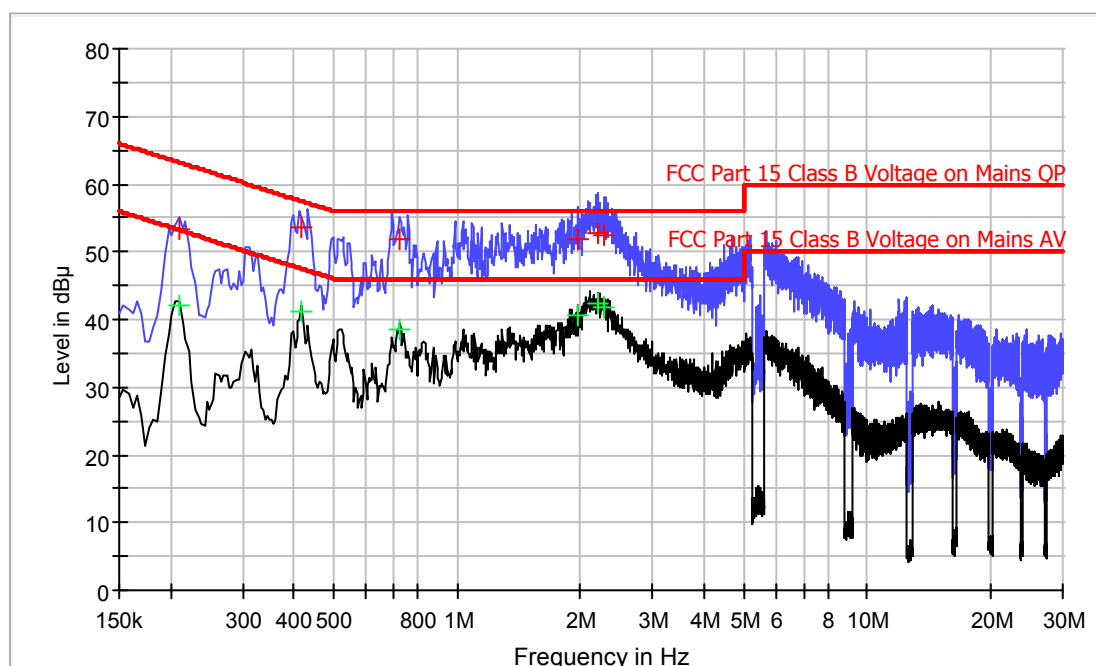
Worst Case Live-Conducted emission at 2.202MHz is Passed by 3.2 dB margin

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Worst Case Operating Mode: 802.11n-HT20 (TX-Channel 11)
 Adapter: UE (HW-050055R1W)

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.210	53.2	L1	9.8	10.0	63.2
0.418	53.5	L1	9.8	4.0	57.5
0.726	51.9	L1	10.0	4.1	56.0
1.966	51.9	L1	10.0	4.1	56.0
2.202	52.8	L1	10.0	3.2	56.0
2.294	52.4	L1	10.0	3.6	56.0

Result Table AV

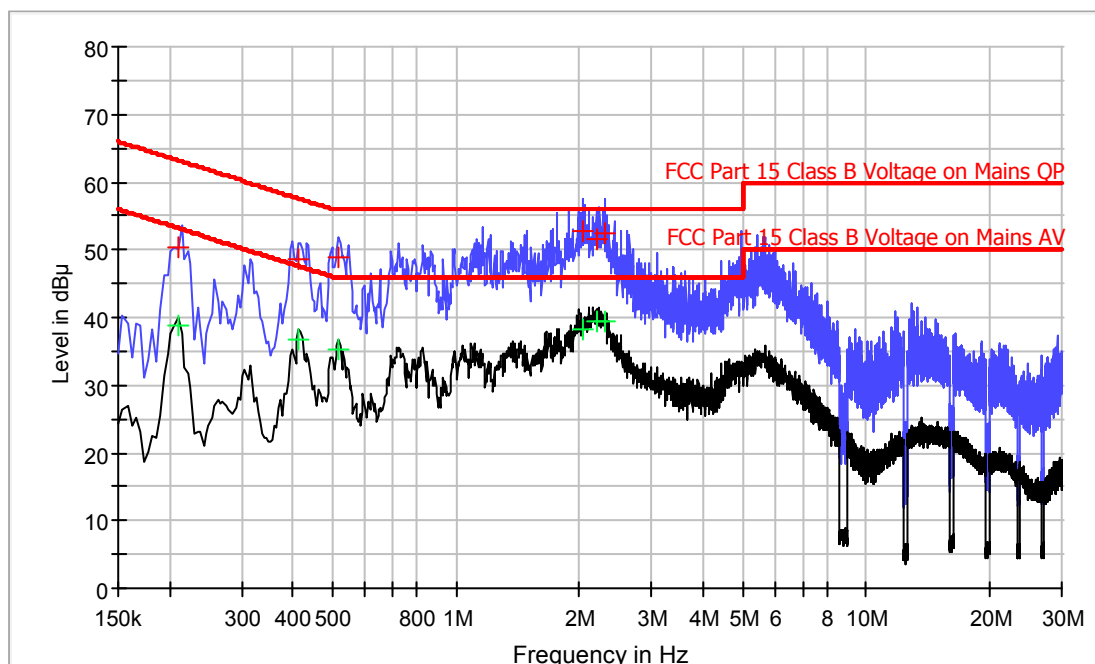
Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.210	42.0	L1	9.8	11.2	53.2
0.418	41.2	L1	9.8	6.3	47.5
0.726	38.6	L1	10.0	7.4	46.0
1.966	40.5	L1	10.0	5.5	46.0
2.202	42.3	L1	10.0	3.7	46.0
2.294	41.8	L1	10.0	4.2	46.0

TRF no.: FCC 15C_TX_b
 FCC ID: QISY520-U03A
 Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd
 Date of Test: December 03, 2014
 Model: HUAWEI Y520-U03
 Worst Case Operating Mode: 802.11n-HT20 (TX-Channel 11)
 Adapter: UE (HW-050055R1W)

Conducted Emission Test - FCC



Result Table QP

Frequency (MHz)	QuasiPeak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.210	50.3	N	10.1	12.9	63.2
0.414	48.5	N	10.1	9.1	57.6
0.518	48.9	N	10.2	7.1	56.0
2.042	52.7	N	10.3	3.3	56.0
2.198	51.5	N	10.3	4.5	56.0
2.314	52.3	N	10.3	3.7	56.0

Result Table AV

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.210	38.8	N	10.1	14.4	53.2
0.414	36.7	N	10.1	10.9	47.6
0.518	35.3	N	10.2	10.7	46.0
2.042	38.1	N	10.3	7.9	46.0
2.198	39.3	N	10.3	6.7	46.0
2.314	39.5	N	10.3	6.5	46.0

TRF no.: FCC 15C_TX_b
 FCC ID: QISY520-U03A
 Report No.: 141120012SZN-004

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

4.10 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

Not required - No digital part

Test results are attached

Included in the separated report.

INTERTEK TESTING SERVICES

Applicant: Huawei Technologies Co., Ltd

Date of Test: December 03, 2014

Model: HUAWEI Y520-U03

4.11 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

INTERTEK TESTING SERVICES

EXHIBIT 5

EQUIPMENT PHOTOGRAPHS

INTERTEK TESTING SERVICES

5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.doc & internal photos.pdf.

INTERTEK TESTING SERVICES

EXHIBIT 6

PRODUCT LABELLING

INTERTEK TESTING SERVICES

6.0 Product Labelling

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.

INTERTEK TESTING SERVICES

EXHIBIT 7

TECHNICAL SPECIFICATIONS

INTERTEK TESTING SERVICES

7.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.

INTERTEK TESTING SERVICES

EXHIBIT 8

INSTRUCTION MANUAL

INTERTEK TESTING SERVICES

8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

INTERTEK TESTING SERVICES

EXHIBIT 9

MISCELLANEOUS INFORMATION

INTERTEK TESTING SERVICES

9.0 **Discussion of Pulse Desensitization**

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF*.

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

INTERTEK TESTING SERVICES

EXHIBIT 10

TEST EQUIPMENT LIST

INTERTEK TESTING SERVICES

10.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	21-May-2014	21-May-2015
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	21-May-2014	21-May-2015
SZ061-03	BiConiLog Antenna	ETS	3142C	00066460	28-Jun-2014	28-Jun-2015
SZ185-01	EMI Receiver	R&S	ESCI	100547	10-Mar-2014	10-Mar-2015
SZ061-08	Horn Antenna	ETS	3115	00092346	19-Oct-2014	19-Oct-2015
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	00083067	03-Sep-2014	03-Sep-2015
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	29-Apr-2014	29-Apr-2015
EM031-03	EXA Spectrum Analyzer	R&S	FSV40	101506	09-Jun-2014	09-Jun-2015
SZ181-04	Preamplifier	Agilent	8449B	3008A0247 4	10-Mar-2014	10-Mar-2015
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	19-Apr-2014	19-Apr-2015
SZ062-02	RF Cable	RADIALL	RG 213U	--	03-Jul-2014	03-Jan-2015
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	09-Oct-2014	09-Apr-2015
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	09-Oct-2014	09-Apr-2015
SZ067-04	Notch Filter	Micro-Tronics	BRM5070 2-02	--	21-May-2014	21-May-2015
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	01-Nov-2014	01-Nov-2015
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	01-Nov-2014	01-Nov-2015
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	16-Jun-2014	16-Jun-2015
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-2014	23-Aug-2015