

Huawei Technologies Co.,Ltd

Application For Certification

FCC ID: QISY520-U03

WCDMA Digital Mobile Phone

Model: HUAWEI Y520-U03

WiFi Transceiver

Report No.: 140710013SZN-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

Jenner Liu Assistant Engineer Andy Yan Senior Project Engineer Date: August 15, 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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• The evaluation data of the report will be kept for 3 years from the date of issuance.

TRF no.: FCC 15C_Tx_b

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MEASUREMENT/TECHNICAL REPORT

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

FCC ID: QISY520-U03

This report concerns (check one)	Original Grant	<u>X</u> Class	II Change	e
Equipment Type: <u>DTS - Part 15</u> portion)	<u>Digital Transmissio</u>	n Systems (N	<u> ViFi trans</u>	smitter
Deferred grant requested per 47 Cl	FR 0.457(d)(1)(ii)?	Yes	No	<u>X</u>
Company Name agrees to notify th		If yes, defer u date	da	ate
of the intended date of announce issued on that date.	ement of the produce	ct so that the	e grant c	an be
Transition Rules Request per 15.37	70	Yes	No	V
	1 :	res		<u> </u>
If no, assumed Part 15, Subpart [10-01-13 Edition] provision.			_	
If no, assumed Part 15, Subpart			_	

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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

EXHIBIT 1

SUMMARY OF TEST RESULTS

1.0 Summary of Test

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

FCC ID: QISY520-U03

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.

EXHIBIT 2

GENERAL DESCRIPTION

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): 140710013SZN-002
- 2. Bluetooth LE 4.0 (2.4G band): 140710013SZN-003
- 3. WCDMA Digital Mobile Phone (2G&3G): 140710013SZN-001
- 4. PC download (Class B personal computer and peripherals): 140710013SZN-005
- 5. Other function: 140710013SZN-006

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).

EXHIBIT 3

SYSTEM TEST CONFIGURATION

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, 1A), 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.

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.
	Goertek	HA1-3
Earphone (Black)	Quancheng	1293#+3283# 3.5MM-150
	Lianchuang	MEMD1532B528000
Fornhana (M/hita)	Merry	EMC323-011-01
Earphone (White)	Goertek	HG-04A
USB Cable	/	Data Cable USB A Male to Micro USB, shielded, 100cm
	BYD	HBE(1/1/(1720mAb))
Potton/	LISHEN	HB5V1 (1730mAh)
Battery	SUNWODA	HBE(1)(1)(1050mAb)
	SCUD	HB5V1HV (1950mAh)
	BYD / HuntKey	HW-050055U1W
		Input: 100-240Vac, 50/60Hz, 0.2A;
		Output: 5Vdc, 550mA
		HW-050055E1W
	BYD / HuntKey	Input: 100-240Vac, 50/60Hz, 0.2A;
		Output: 5Vdc, 550mA
		HW-050055B1W
AC/DC Adapter (Huawei)	BYD / HuntKey	Input: 100-240Vac, 50/60Hz, 0.2A; Output: 5Vdc, 550mA
		HW-050055A1W
	BYD /UE	Input: 100-240Vac, 50/60Hz, 0.2A;
	DID/OL	Output: 5Vdc, 550mA
		HW-050055R1W
	BYD /UE	Input: 100-240Vac, 50/60Hz, 0.2A;
		Output: 5Vdc, 550mA

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

EXHIBIT 4

MEASUREMENT RESULTS

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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

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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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.

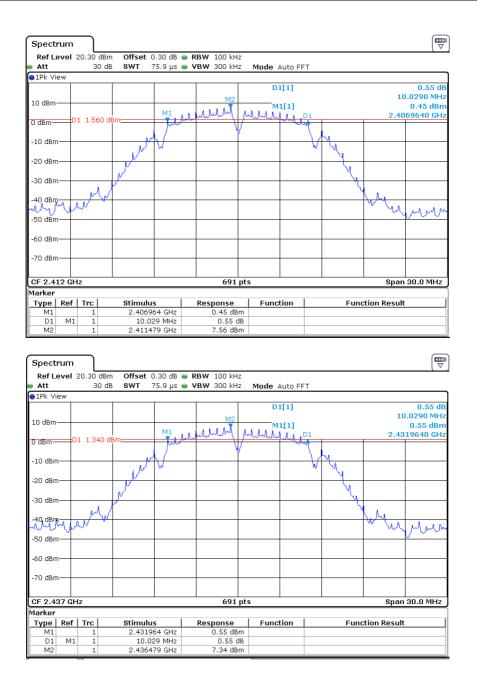
IEEE 802.11b (BPSK, 1Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	10.029	
2437	10.029	
2462	10.029	

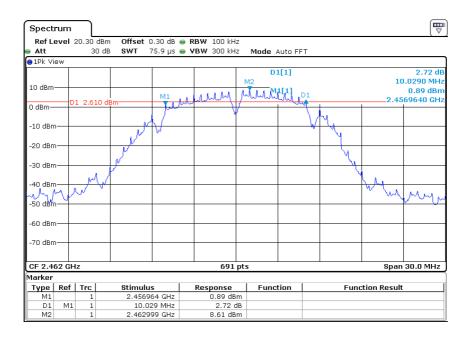
IEEE 802.11g (DBPSK, 6Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	16.368	
2437	16.368	
2462	15.673	
IEEE 802.11n 20M (BPSK, 6.5Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	17.453	
2437	17.627	
2462	16.020	

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.

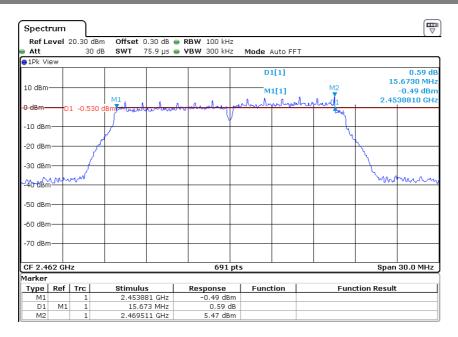






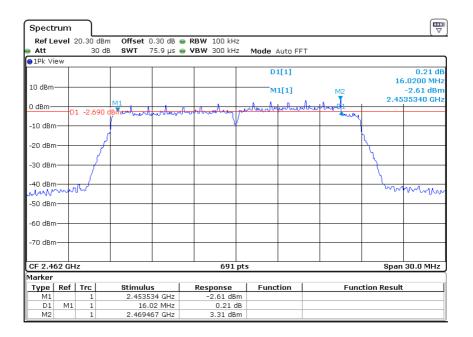




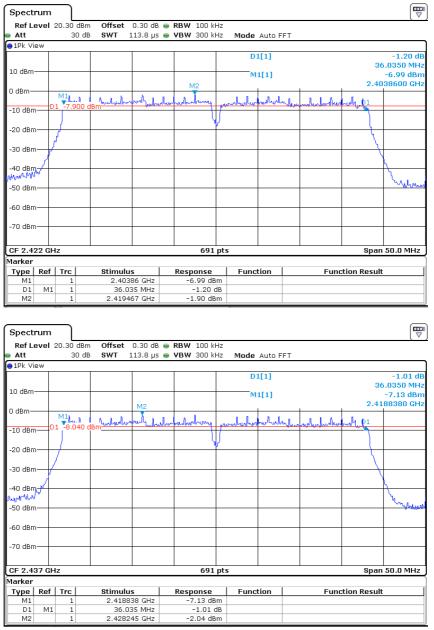


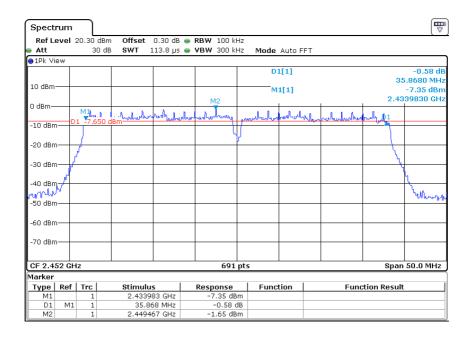
802.11n-HT20

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						E	1[1]				0.47 di
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10 0011					M2	P	11[1]				-5.21 dBn 4033170 GH
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D1	M1										
M2 Spect				53 MHz 741 GHz	0.47 0.92 d						
Spect Ref L	rum	1 20.30 dBn	2.4107 n Offset	0.30 dB	0.92 d • RBW 100 ki	Bm Hz					(III)
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Spect Ref L Att	rum evel :	1 20.30 dBn	2.4107 n Offset	0.30 dB	0.92 d • RBW 100 ki	Bm Hz Hz Mode		FT			(\
Spect Ref L Att 1Pk Vi	rum evel :	1 20.30 dBn	2.4107 n Offset	0.30 dB	0.92 d • RBW 100 ki	Bm Hz Hz Mode	Auto FF	FT			(⊽ 0.94 di
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Spect Ref Li Att 1Pk Vi 10 dBm 0 dBm- 10 dBm 20 dBn	rum evel : iew n	20.30 dBn 30 dl	2.4107 n Offset 3 SWT	0.30 dB (75.9 μs (0.92 d • RBW 100 ki • VBW 300 ki	Hz Hz Mode	01[1] 11[1]		M2	2	0.94 di 17.6270 MH -5.43 dBr
Spect Ref L 1Pk Vi 1Pk Vi 0 dBm- 10 dBm- 20 dBn 30 dBn	rum evel : iew	1 20.30 dBn 30 dI	2.4107 n Offset 3 SWT	0.30 dB (75.9 μs (0.92 d • RBW 100 ki • VBW 300 ki	Hz Hz Mode	01[1] 11[1]		M2		0.94 dl 17.6270 MH -5.43 dBr .4281430 GH
Spect Ref L Att 10 dBm 0 dBm- 10 dBm 20 dBn 30 dBn	rum evel : iew	20.30 dBn 30 dl	2.4107 n Offset 3 SWT	0.30 dB (75.9 μs (0.92 d • RBW 100 ki • VBW 300 ki	Hz Hz Mode	01[1] 11[1]		M2		0.94 dl 17.6270 MH -5.43 dBr .4281430 GH
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Spect Ref L Att 10 dBm 10 dBm- 10 dBm- 10 dBm- 10 dBm- 10 dBm- 30 dBm- 30 dBm 30 dBm- 30 dBm 30 dBm 30 dBm 40 dBg 50 dBm 40 dBg 40 dBg	rum evel : iew 	1 20.30 dBn 30 dI	2.4107 n Offset 3 SWT	0.30 dB (75.9 μs (0.92 d	Hz Hz Mode	01[1] 11[1]		M2		0.94 dl 17.6270 MH -5.43 dBr .4281430 GH
Spect Ref Li 1P k Vi 10 dBm- 10 dBm- 10 dBm- 20 dBm- 20 dBm- 30 dBm- 30 dBm- 50 dBm 60 dBm 60 dBm 60 dBm 70 dBm 60 dBm 60 dBm 70 dBm	rum evel : iew 	1 20.30 dBm 30 df 1 -5.020	2.4107	0.30 dB 75.9 µs 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.92 d	Hz Mode	91[1] 11[1]		and a R	8	0.94 dl 17.6270 MH -5.43 dBr .4281430 GH
Spect Ref L 10 dBm 10 dBm -10 dBm -10 dBm -20 dBm -20 dBm -30	rum evel : iew 	1 20.30 dBn 30 dI 1 -5.020	2.4107	0.30 dB (75.9 µs ()) 	0.92 d	Hz Hz Hz Mode	01[1] 11[1]		and a R		0.94 dl 17.6270 MH -5.43 dBr .4281430 GH
Spect Ref L	rum evel : iew 	1 20.30 dBm 30 df 1 -5.020	2.4107	0.30 dB 75.9 µs 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.92 d	Hz Hz Mode	91[1] 11[1]		and a R	8	0.94 dl 17.6270 MH -5.43 dBn -4281430 GH



802.11n-HT40





Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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	

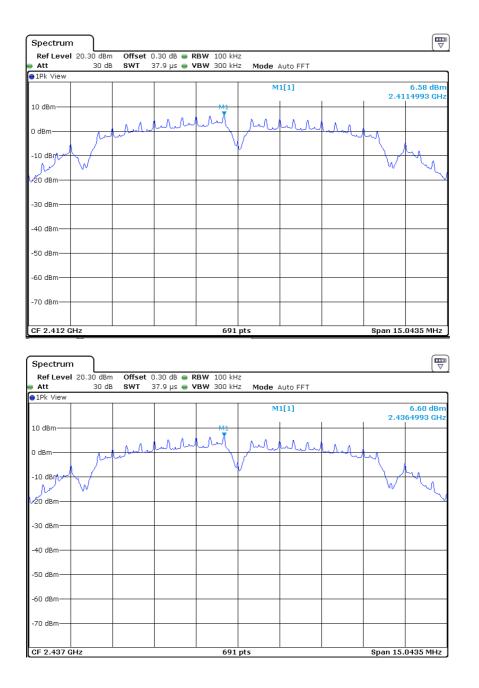
IEEE 802.11g (DBPSK, 6Mbps)		
Frequency (MHz)	Power Density with RBW 100KHz	
2412	3.22	
2437	3.58	
2462	3.68	

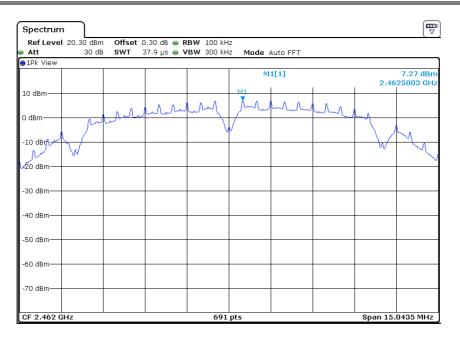
IEEE 802.11n 20M (BPSK, 6.5Mbps)		
Frequency (MHz)	Power Density with RBW 100KHz	
2412	1.48	
2437	1.68	
2462	1.88	

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

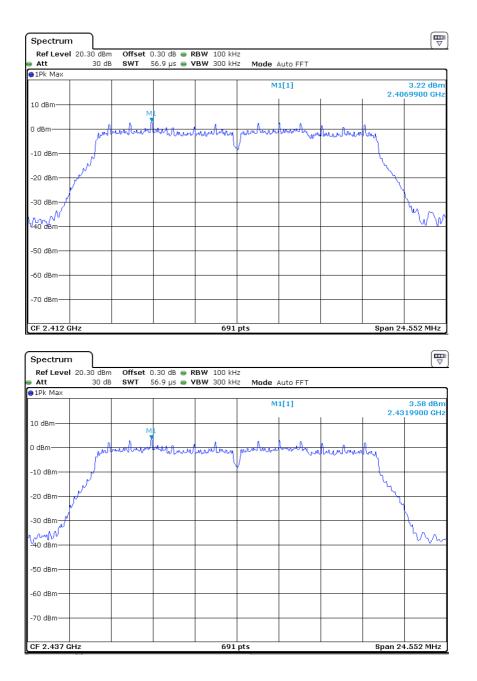
The test plots are attached as below.

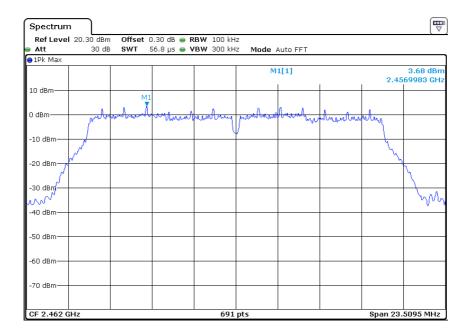




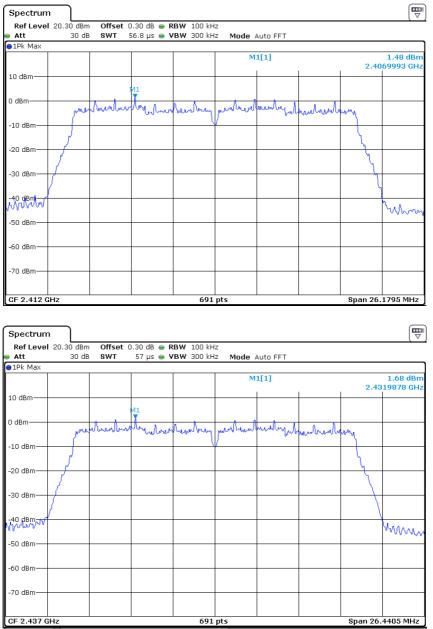


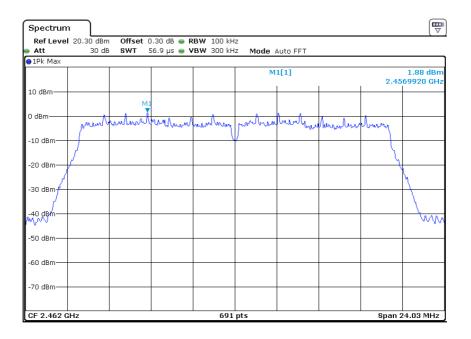




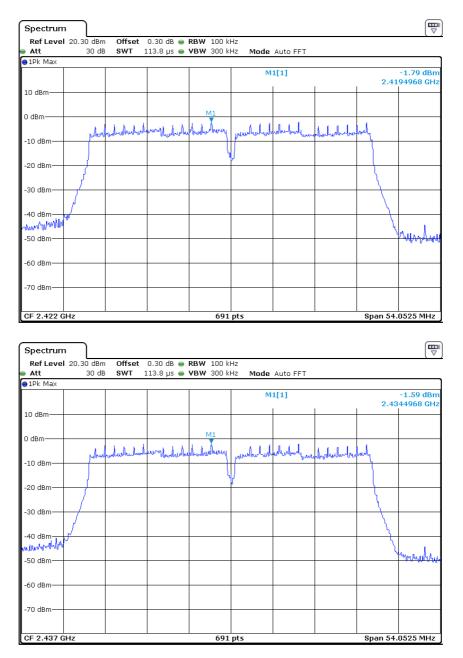


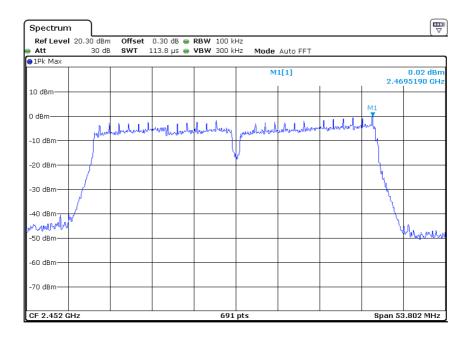
802.11n-HT20





802.11n-HT40





Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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.

802.11b

Channel 1 (2412MHz) Reference Level: 6.58dBm

Att	el 20.30 dBm 30 dB		0.30 dB 👄 R 2.4 ms 👄 V			ito Sween			
1Pk View									
					М	1[1]			37.00 dBn
10 dBm								2.	39830 GH:
) dBm									
10 dBm—									
	D1 -13.420	asm-							
20 dBm—									
30 dBm—									
30 ubiii—									
40 dBm									
50 dBm-							1.1.1.1	. to all	held all and red
wanter	uner the rest h	guerrough	www.	manually	whitewar	madripticeth	limbertury	When when	Percenter
60 dBm—									
70 dBm—									
				691	pts			Sto	
	n 91 20.30 dBm		0.30 dB 👄 F	RBW 1 MHz		Ito Sween		Sto	
Spectrur Ref Leve Att	m al 20.30 dBm 30 dB		0.30 dB 👄 F 90.1 ms 👄 V	RBW 1 MHz		uto Sweep		Sto	
Spectrur Ref Leve Att	m al 20.30 dBm 30 dB			RBW 1 MHz	Mode Au	uto Sweep			(□ ▼ 42.64 dBr
Spectrur Ref Leve Att 1Pk View	m al 20.30 dBm 30 dB			RBW 1 MHz	Mode Au		I		(□ ▼ 42.64 dBn
Spectrur Ref Leve Att 1Pk View	m al 20.30 dBm 30 dB			RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBr
Spectrur Ref Leve Att 1Pk View	m al 20.30 dBm 30 dB			RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBr
Spectrur Ref Leve Att 1Pk View .0 dBm	m al 20.30 dBm 30 dB			RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBr
Spectrur Ref Leve Att 11Pk View .0 dBm	m	3 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBr
Spectrur Ref Leve Att o1Pk View LO dBm	m al 20.30 dBm 30 dB	3 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBn
Spectrur Ref Leve Att 11Pk View 10 dBm	m	3 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBn
Spectrur Ref Leve Att 11Pk View 0 dBm	m	3 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBn
Spectrur Ref Leve Att 11Pk View 0 dBm	m	3 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBn
Spectrur Ref Leve Att DIPk View 0 dBm	m	3 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 42.64 dBn
Spectrur Ref Leve Att DIPk View 0 dBm	m	dBm		RBW 1 MHz	Mode Au	1[1]		10	(
Spectrur Ref Leve Att 11Pk View 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	m	dBm		RBW 1 MHz	Mode Au	1[1]		10	(
Spectrur Ref Leve Att 11Pk View 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	m	3 SWT 9	90.1 ms	RBW 1 MHz	Mode Au	1[1]		10	(
Spectrur Ref Leve Att 11Pk View 0 dBm 10 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm	m	3 SWT 9	90.1 ms	RBW 1 MHz	Mode Au	1[1]		10	(
Spectrur Ref Leve Att 1Pk View 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm	m	3 SWT 9	90.1 ms	RBW 1 MHz	Mode Au	1[1]		10	(
Spectrur Ref Leve	m	3 SWT 9	90.1 ms	RBW 1 MHz	Mode Au	1[1]		10	2.4 GHz

Channel 6 (2437MHz) Reference Level: 6.60dBm

-45.40 dBn 2.39830 GH 10 dBm 0 dBm -10 dBn D1 -13.400 dBm -20 dBn -30 dBr -40 dBn JN -50 dBr المعالمة ما Month nonfrentante moundaryunauforender 1 miles m h deala d -60 dBn -70 dBn Start 1.0 MHz Stop 2.4 GHz 691 pts Spectrum Ref Level 20.30 dBm Att 30 dB Mode Auto Sweep ⊖1Pk View M1[1] -43.42 dBn 15.8925 GHz 10 dBr 0 dBm -10 dBm 01 -13.400 dBm--20 dBm -30 dBm -40 dBm noundment hubber NA Male Holeshed .50,de -60 dBm -70 dBm Stop 25.0 GHz Start 2.4835 GHz 691 pts

Att	l 20.30 dBm 30 dB).30 dB 👄 R 2.4 ms 👄 V		Mode Au	ito Sweep			
●1Pk View									
					М	1[1]			45.98 dB
10 dBm								Z.	.38780 GI
10 dbiii									
0 dBm									
-10 dBm—									
	D1 -12.730	dBm							
-20 dBm—									
-30 dBm									
-40 dBm—									
-50 dBm—	umanintal	an an an that has be	, in disable hall	maria	al hashire	Ally mondared	momonaritation	hunderburget	howman
	and an analytical (halfran waar am		0.000 Well					
-60 dBm—									
-70 dBm									
-70 0011									
								1	
Start 1.0 r Spectrur	n	Offect		691				Sto	
Spectrur	n I 20.30 dBm			RBW 1 MHz		uto Sweep		Sto	
Spectrur Ref Leve	n I 20.30 dBm).30 dB ● R 90.1 ms ● V	RBW 1 MHz	Mode At			Sto	
Spectrur Ref Leve Att	n I 20.30 dBm			RBW 1 MHz	Mode At	uto Sweep			42.70 dB
Spectrur Ref Leve Att 1Pk View	n I 20.30 dBm			RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att	n I 20.30 dBm			RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att 1Pk View	n I 20.30 dBm			RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att 1Pk View	n I 20.30 dBm			RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att 1Pk View	n 1 20.30 dBm 30 dB	SWT S		RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att 1Pk View 10 dBm	n I 20.30 dBm	SWT S		RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att 1Pk View 10 dBm	n 1 20.30 dBm 30 dB	SWT S		RBW 1 MHz	Mode At				42.70 dB
Spectrur Ref Leve Att 10 dBm	n 1 20.30 dBm 30 dB	SWT S		RBW 1 MHz	Mode Au				42.70 dB
Spectrur Ref Leve Att 10 dBm	n 1 20.30 dBm 30 dB	SWT S		RBW 1 MHz	Mode Au				42.70 dB
Spectrur Ref Leve Att 10 dBm	n 1 20.30 dBm 30 dB	SWT S		RBW 1 MHz	Mode Au				42.70 dB
Spectrur Ref Leve Att 10 dBm	n 1 20.30 dBm 30 dB	SWT S		BW 1 MHz BW 3 MHz	Mode Au	1[1]		1	42.70 dB 5.2505 Gł
Spectrur Ref Leve Att 10 dBm	n 1 20.30 dBm 30 dB	SWT S		BW 1 MHz BW 3 MHz	Mode At	1[1]		1	42.70 dB 5.2505 Gi
Spectrur Ref Leve Att 10 dBm	n	SWT 9	00.1 ms	BW 1 MHz BW 3 MHz	Mode Au	1[1]		1	42.70 dB 5.2505 Gł
Spectrur Ref Leve Att 10 dBm	n	SWT 9	00.1 ms	BW 1 MHz BW 3 MHz	Mode Au	1[1]	han the second sec	1	42.70 dB 5.2505 Gł
Spectrur Ref Leve Att 10 dBm	n	SWT 9	00.1 ms	BW 1 MHz BW 3 MHz	Mode Au	1[1]	hand	1	42.70 dB 5.2505 Gł
Spectrur Ref Leve Att 10 dBm	n	SWT 9	00.1 ms	BW 1 MHz BW 3 MHz	Mode Au	1[1]		1	р 2.4 GH

Channel 11 (2462MHz) Reference Level: 7.27dBm

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

Att	el 20.30 dBm 30 dB).30 dB 👄 R 2.4 ms 👄 V		Mode Au	ito Sweep			
1Pk Max									
					M	1[1]			24.05 dBn 39830 GH
LO dBm—									
) dBm									
10 dBm—									
	D1 -16.780	dBm							
20 dBm—									
30 dBm—									
50 abiii									
40 dBm—									
									المن
50 dBm—				1.15.1		le di se se	Jamesuchun	to a 15 B a 16 M	dahuan har
Johnstein	de level have been been been been been been been be	normal house	hopenine	multilappinger	hundling	1-uuu	r from the second	,	
60 dBm—									
70 dBm—									
Spectrur	n		1	691				Sto	_
Spectrur			D.30 dB ● F 90.1 ms ● V	RBW 1 MHz		uto Sweep		Sto	
Spectrur Ref Leve Att	n el 20.30 dBm		0.30 dB 👄 F 90.1 ms 👄 V	RBW 1 MHz	Mode Au				
Spectrur Ref Leve Att	n el 20.30 dBm			RBW 1 MHz	Mode Au	uto Sweep			(□ ▼ 43.24 dBr
Spectrur Ref Leve Att 1Pk Max	n el 20.30 dBm			RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBr
Spectrur Ref Leve Att 1Pk Max	n el 20.30 dBm			RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBr
Spectrur Ref Leve Att 1Pk Max .0 dBm	n el 20.30 dBm			RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBr
Spectrur Ref Leve Att 1Pk Max 0 dBm	n el 20.30 dBm			RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBr
Spectrur Ref Leva Att 11Pk Max .0 dBm	n el 20.30 dBm			RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBr
Spectrur Ref Leve Att IPk Max O dBm O dBm 10 dBm	m el 20.30 dBm 30 dB	5 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBn
Spectrur Ref Leve Att IPk Max O dBm O dBm 10 dBm	n el 20.30 dBm	5 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBn
Spectrur Ref Leve Att 1Pk Max 0 dBm 0 dBm 10 dBm 20 dBm	m el 20.30 dBm 30 dB	5 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBr
Spectrur Ref Leve Att 1Pk Max 0 dBm 0 dBm 10 dBm 20 dBm	m el 20.30 dBm 30 dB	5 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBn
Spectrum Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm	m el 20.30 dBm 30 dB	5 SWT 9		RBW 1 MHz	Mode Au				(□ ▼ 43.24 dBn
Spectrum Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm	m 30 dBm 30 dB	5 SWT 9		RBW 1 MHz BBW 3 MHz	Mode At	1[1]		10	(₩ 43.24 dBn 5.6095 GH
Bpectrui Ref Leve Att 11Pk Max .0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	m el 20.30 dBm 30 dB	dBm		RBW 1 MHz BBW 3 MHz	Mode At	1[1]	- 	- 1((▼ 43.24 dBn 5.6095 GH
Bpectrui Ref Leve Att 11Pk Max .0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	m el 20.30 dBm 30 dB	3 SWT 9		RBW 1 MHz BBW 3 MHz	Mode At	1[1]	ny harman	10	(₩ 43.24 dBr 5.6095 GH
Spectrum Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm	m el 20.30 dBm 30 dB	3 SWT 9		RBW 1 MHz BBW 3 MHz	Mode At	1[1]	www.	10	(₩ 43.24 dBn 5.6095 GH
Spectrum Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm	m el 20.30 dBm 30 dB	3 SWT 9		RBW 1 MHz BBW 3 MHz	Mode At	1[1]	- 	10	p 2.4 GHz
	m el 20.30 dBm 30 dB	3 SWT 9		RBW 1 MHz BBW 3 MHz	Mode At	1[1]	n d davena	10	(₩ 43.24 dBn 5.6095 GH

Channel 6 (2437MHz) Reference Level: 3.58dBm

Att	el 20.30 dBn 30 di		0.30 dB 👄 I 2.4 ms 👄 '		Mode Auto	Sweep		
1Pk Max						F		
					M1[1	1		-40.31 dBn
10 dBm								2.39830 GH
to abili								
) dBm								
10 dBm—								
	D1 -16.420	d R m						
20 dBm—	D1 -10.420							
30 dBm—								
40 dBm—								
								J.
50 dBm—		والمربية الم	munham	www.madrue.u.w	Merrial Maria Securit	to well why all woll have	way	and marked and
	mulherours	www.m~~~~			*** **********			
60 dBm—								
70 dBm—								
tart 1.0	MHz			691	pts			Stop 2.4 GHz
Start 1.0 Spectru				691	pts			Stop 2.4 GHz
Spectrui Ref Levi	m		0.30 dB 🖷	RBW 1 MHz			5	
Spectrui Ref Leve Att	m			RBW 1 MHz	pts Mode Auto	Sweep		
Spectrui Ref Levi	m			RBW 1 MHz	Mode Auto		s	
Spectrui Ref Leve Att	m			RBW 1 MHz				
Spectrui Ref Leve Att 1Pk Max	m			RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrui Ref Levi Att 1Pk Max 0 dBm	m			RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrui Ref Levi Att 1Pk Max 0 dBm	m			RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrui Ref Levi Att 1Pk Max 0 dBm	m			RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrui Ref Levi Att 1Pk Max 0 dBm	m			RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrum Ref Levr Att 1Pk Max 0 dBm	m	3 SWT		RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrum Ref Levr Att 1Pk Max 0 dBm	m	3 SWT		RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrui Ref Levi Att 1Pk Max 0 dBm	m	3 SWT		RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrui Ref Levi Att 1Pk Max 0 dBm	m	3 SWT		RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrum Ref Levo <u>Att</u> 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 30 dBm	m	3 SWT		RBW 1 MHz	Mode Auto			-41.53 dBr
Spectrum Ref Levo Att 11Pk Max 0 dBm	m el 20.30 dBr 30 di	dBm	90.1 ms	RBW 1 MHz VBW 3 MHz	Mode Auto			-41.53 dBr 9.7665 GH
Spectrum Ref Levi Att 11Pk Max 0 dBm 10 dBm 10 dBm 20 dBm	m el 20.30 dBn 30 di	dBm	90.1 ms	RBW 1 MHz VBW 3 MHz	Mode Auto			-41.53 dBr 9.7665 GH

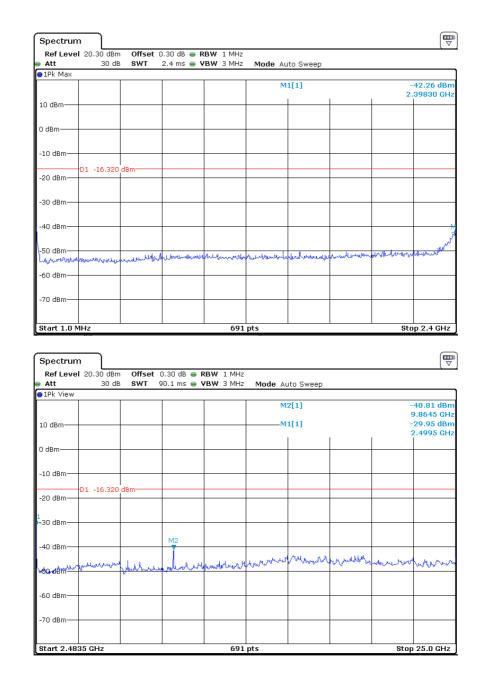
691 pts

TRF no.: FCC 15C_TX_b FCC ID: QISY520-U03 Report No.: 140710013SZN-004

-70 dBm-

Start 2.4835 GHz

Stop 25.0 GHz



Channel 11 (2462MHz) Reference Level: 3.68dBm

802.11n-HT20 Channel 1 (2412MHz) Reference Level: 1.48dBm

Att	el 20.30 dBm 30 dB		0.30 dB 👄 R 2.4 ms 👄 V		Mode Au	ito Sweep			
1Pk Max		1				4141			
						1[1]			27.80 dBn 39830 GH:
10 dBm									
a da									
) dBm									
10 dBm									
·20 dBm—	D1 -18.520	dBm 							
30 dBm—									
SO UDIT									
40 dBm—									
									للمحلل
50 dBm—	helphanewerk	way out and	Muhanmatanta	ware harris	www.hulull	nutworkstudion	nenenmen	whenhalter	hough
60 dBm—									
00 0011									
70 dBm—									
				691	pts			Sto	ip 2.4 GHz
Spectrur		Offset	0.30 dB 👄 R		pts			Sto	
Spectrur Ref Leve Att	n		0.30 dB ● R 90.1 ms ● V	(BW 1 MHz		uto Sweep		Sto	
Spectrur Ref Leve Att	n			(BW 1 MHz	Mode Au				
Spectrur Ref Leve Att)1Pk Max	n			(BW 1 MHz	Mode Au	uto Sweep			(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att)1Pk Max	n			(BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att)1Pk Max 10 dBm	n			(BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 1Pk Max .0 dBm	n			(BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att)1Pk Max 10 dBm	n			(BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 11Pk Max 0 dBm	n 91 20.30 dBm 30 dE	swr ((BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 11Pk Max 0 dBm	n	swr ((BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm	n 91 20.30 dBm 30 dE	swr ((BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 10 dBm	n 91 20.30 dBm 30 dE	swr ((BW 1 MHz	Mode Au				(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 11Pk Max 0 dBm	n 91 20.30 dBm 30 dE	swr (RBW 1 MHz BW 3 MHz	Mode At	1[1]			(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	n 91 20.30 dBm 30 dE	swr (90.1 ms	RBW 1 MHz BW 3 MHz	Mode At	1[1]			(₩ ▼ 43.36 dBn
Spectrur Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	n	swr ((BW 1 MHz	Mode At	1[1]		10	43.36 dBn 5.3155 GH
Spectrur Ref Leve Att 11Pk Max 0 dBm	n	swr (90.1 ms	RBW 1 MHz BW 3 MHz	Mode At	1[1]	Aunder	10	43.36 dBn 5.3155 GH
Spectrur Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm 50 dBm	n	swr (90.1 ms	RBW 1 MHz BW 3 MHz	Mode At	1[1]		10	43.36 dBn 5.3155 GH
	n	swr (90.1 ms	RBW 1 MHz BW 3 MHz	Mode At	1[1]		10	43.36 dBn 5.3155 GH;

	l 20.30 dBm		0.30 dB 👄 F						
Att 1Pk Max	30 dB	SWT	2.4 ms 👄	BW 3 MHz	Mode Au	ito Sweep			
UPK Max					M	1[1]			40.10 dl
									.38780 G
10 dBm									
0 dBm									
-10 dBm									
	D1 -18.320	dBm							
-20 dBm	01 -10.520	ubm							
-30 dBm									
40 d0m									
-40 dBm									
-50 dBm									June 1
When maker	uter when the second	mound	purklyuma	anothenbury	un hunder	thorne mark	month	mumm	with
-60 dBm									
-70 dBm									
Start 1.0 M				691	pts			510	
Spectrum Ref Level	ר I 20.30 dBm		0.30 dB 👄 F	RBW 1 MHz		ite Sween		st	
Spectrum	 ו		0.30 dB 👄 🖡 90.1 ms 👄 V	RBW 1 MHz		uto Sweep		Ste	
Spectrum Ref Level	ר I 20.30 dBm			RBW 1 MHz	Mode Au	uto Sweep			(
Spectrum Ref Level Att 9 1Pk Max	ר I 20.30 dBm			RBW 1 MHz	Mode Au		1		-42.05 dl
Spectrum Ref Level	ר I 20.30 dBm			RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att PIPk Max	ר I 20.30 dBm			RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att 9 1Pk Max	ר I 20.30 dBm			RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att PPk Max	ר I 20.30 dBm			RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att PIPk Max	ר I 20.30 dBm			RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att 1Pk Max 10 dBm	ר I 20.30 dBm	SWT		RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att 1Pk Max 10 dBm	20.30 dBm 30 dB	SWT		RBW 1 MHz	Mode Au				42.05 dl
Spectrum Ref Level Att 1Pk Max 10 dBm	20.30 dBm 30 dB	SWT		RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att 10 dBm	20.30 dBm 30 dB	SWT		RBW 1 MHz	Mode Au				-42.05 dl
Spectrum Ref Level Att 10 dBm	20.30 dBm 30 dB	SWT		RBW 1 MHz VBW 3 MHz	Mode Au	1[1]			42.05 dl
Spectrum Ref Level Att 10 dBm	20.30 dBm 30 dB	SWT	99.1 ms	RBW 1 MHz VBW 3 MHz	Mode Au	1[1]	and was not all		42.05 dl
Spectrum Ref Level • Att • 1Pk Max 10 dBm	20.30 dBm 30 dB	SWT	90.1 ms	RBW 1 MHz VBW 3 MHz	Mode Au	1[1]			42.05 dl
Spectrum Ref Level Att 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm	20.30 dBm 30 dB	SWT	99.1 ms	RBW 1 MHz VBW 3 MHz	Mode Au	1[1]			42.05 dl
Spectrum Ref Level Att 10 dBm	20.30 dBm 30 dB	SWT	99.1 ms	RBW 1 MHz VBW 3 MHz	Mode Au	1[1]	where we the		42.05 dl
Spectrum Ref Level Att 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -60 dBm	20.30 dBm 30 dB	SWT	99.1 ms	RBW 1 MHz VBW 3 MHz	Mode Au	1[1]	out our web		42.05 dl
Spectrum Ref Level Att 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm -40 dBm	20.30 dBm 30 dB	SWT	99.1 ms	RBW 1 MHz VBW 3 MHz	Mode Au	1[1]			42.05 dl

Channel 6 (2437MHz) Reference Level: 1.68dBm

🛛 Att	el 20.30 dBm 30 dB		0.30 dB 👄 R 2.4 ms 👄 V		Mode Au	ito Sweep			
⊖1Pk Max									
					м	1[1]			-42.49 dB .39480 GI
10 dBm								4	.39480 G
10 000									
0 dBm									
-10 dBm—									
-20 dBm-	D1 -18.120	dBm							
-30 dBm—									
-40 dBm—									
-50 dBm—								. whethere	لس المسالية
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-60 dBm—									
-70 dBm—									
								1	
Start 1.0	m			691	pts		I	St	
Spectru			 0.30 dB ● F 90.1 ms ● \	RBW 1 MHz		uto Sweep		St	
Spectrui Ref Leve	m el 20.30 dBn 30 dB			RBW 1 MHz		uto Sweep		St	-
Spectrui Ref Leve Att	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode Au	uto Sweep 2[1]			-42.84 dB
Spectrui Ref Levo Att Pk View	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GH
Spectrui Ref Leve Att	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode At				-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levo Att 1Pk View	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levo Att Pk View	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levo Att 1Pk View 10 dBm	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levo Att 1Pk View	m el 20.30 dBn 30 dB			RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB 2.4995 GF
Spectrui Ref Levo Att 1Pk View 10 dBm	m el 20.30 dBn 30 dB	3 SWT 9		RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrum Ref Levo Att 1Pk View 10 dBm	m el 20.30 dBn 30 dE	3 SWT 9		RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrum Ref Levo Att 1Pk View 10 dBm	m el 20.30 dBn 30 dE	3 SWT 9		RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levi Att 10 dBm	m el 20.30 dBn 30 dE	3 SWT 9		RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levi Att 10 dBm	m el 20.30 dBn 30 dE	3 SWT 9		RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GF -36.56 dB
Spectrui Ref Levi Att 10 dBm	m	3 SWT 9	00.1 ms V	RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 GH -36.56 dB 2.4995 GH
Spectrum Ref Leve Att 10 dBm	m	3 SWT 9	00.1 ms V	RBW 1 MHz	Mode At	2[1]	i Marali Mara		-42.84 dB 9.8645 Gł -36.56 dB 2.4995 Gł
Spectrui Ref Levi Att 10 dBm	m	3 SWT 9	00.1 ms V	RBW 1 MHz	Mode At	2[1]	L. L		-42.84 dB 9.8645 Gł -36.56 dB 2.4995 Gł
Spectrui Ref Levi Att 10 dBm	m	3 SWT 9	00.1 ms V	RBW 1 MHz	Mode At	2[1]			-42.84 dB 9.8645 Gł -36.56 dB 2.4995 Gł
Spectrui Ref Levi Att 10 dBm	m	3 SWT 9	00.1 ms V	RBW 1 MHz	Mode At	2[1]	- Wmatria		-42.84 dB 9.8645 Gł -36.56 dB 2.4995 Gł
Spectrui Ref Levi Att 10 dBm	m	3 SWT 9	00.1 ms V	RBW 1 MHz	Mode At	2[1]	- Wmuthu		-42.84 dB 9.8645 Gł -36.56 dB 2.4995 Gł

Channel 11 (2462MHz) Reference Level: 1.88dBm

802.11n-HT40 Channel 3 (2422MHz) Reference Level: -1.79dBm

1Pk Max	30 dB		2.4 ms 👄 V	BW 1 MHz BW 3 MHz	Mode Au	ito Sweep			
and the second second									
					М	1[1]			25.97 dBr
10 dBm								2.	39130 GH
to abili									
) dBm									
10 dBm									
20 dBm—	D1 -21.790	40							
	DI -21.790	uBm-							
30 dBm—									
40 dBm									
									ľ
50 dBm	hablicanter	March	while while an	Mununu	under Horman	and have short	mound	www.Netrin-re	n bullet
	www.www.ww	wordten	· ·						
60 dBm—									
70 dBm—									
Start 1.0 M	MHz			691	pts			Sto	p 2.4 GHz
									_
Spectrun	n								
Ref Leve	l 20.30 dBm		0.30 dB 👄 R						
Ref Leve Att			0.30 dB 👄 R 90.1 ms 👄 V		Mode Au	uto Sweep			
Ref Leve Att	l 20.30 dBm								39.91 dBr
Ref Leve Att 1Pk Max	l 20.30 dBm					uto Sweep			
Ref Leve Att 1Pk Max	l 20.30 dBm								
Ref Leve Att 1Pk Max	l 20.30 dBm								
Ref Leve Att 1Pk Max	l 20.30 dBm								39.91 dBr 2.4995 GH
Ref Leve Att 1Pk Max .0 dBm	l 20.30 dBm								
Ref Leve Att 1Pk Max .0 dBm	l 20.30 dBm								
Ref Leve Att 11Pk Max 0 dBm	l 20.30 dBm								
Ref Leve Att 11Pk Max 0 dBm	l 20.30 dBm	SWT 9							
Ref Leve Att 1Pk Max 0 dBm 0 dBm 10 dBm 20 dBm	I 20.30 dBm 30 dB	SWT 9							
Ref Leve Att 1Pk Max 0 dBm 0 dBm 10 dBm 20 dBm	I 20.30 dBm 30 dB	SWT 9							
Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 20 dBm 30 dBm	I 20.30 dBm 30 dB	SWT 9							
Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 20 dBm 30 dBm	0 20.30 dBm 30 dB 0 -21.790	SWT 9	00.1 ms V	BW 3 MHz	M	1[1]	A A paradrí a		2.4995 GH
Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	I 20.30 dBm 30 dB	SWT 9		BW 3 MHz	M	1[1]	Whento for the		
Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	0 20.30 dBm 30 dB 0 -21.790	SWT 9	00.1 ms V	BW 3 MHz	M	1[1]	Work of the second s		2.4995 GH
Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	0 20.30 dBm 30 dB 0 -21.790	SWT 9	00.1 ms V	BW 3 MHz	M	1[1]	1		2.4995 GH
Ref Leve Att 11Pk Max 0 dBm 0 dBm 10 dBm 20 dBm 30 dBm 40 dBm	0 20.30 dBm 30 dB 0 -21.790	SWT 9	00.1 ms V	BW 3 MHz	M	1[1]	1 American American		2.4995 GH
Ref Leve	0 20.30 dBm 30 dB 0 -21.790	SWT 9	00.1 ms V	BW 3 MHz	M	1[1]	1 And Marked M Marked Marked Marke		2.4995 GH

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

Att	al 20.30 dBm 30 dB		2.4 ms 👄 V	BW 1 MHz BW 3 MHz	Mode Au	ito Sweep			
1Pk Max			_						
					м	1[1]			28.02 dBr 39830 GH
10 dBm—									
) dBm——									
10 dBm—									
10 00111									
20 dBm—	D1 -21.590	dBm							
	01 21.000	dom							
-30 dBm—									
-40 dBm—									
10 abiii									كمر
-50 dBm			howard	u aliaka na	All an ann amh th	and the state of the state	1 And a Charles	mound	www.pr.k.
harbettern	Malthourser	and the com				0.00	~~~~		
-60 dBm—									
-70 dBm—									
/o abiii									
				691	pts			Sto	
Spectru	n	0//			pts			Sto	
Spectru			0.30 dB 👄 R 90.1 ms 👄 V	BW 1 MHz		uto Sweep		Sto	
Spectrui Ref Leve Att	mal 20.30 dBm		0.30 dB 👄 R 90.1 ms 👄 V	BW 1 MHz	Mode Au	uto Sweep			
	mal 20.30 dBm			BW 1 MHz	Mode Au	uto Sweep			(⊽ 34.89 dBn
Spectrui Ref Leve Att	mal 20.30 dBm			BW 1 MHz	Mode Au				
Spectrui Ref Levi Att IPk Max	mal 20.30 dBm			BW 1 MHz	Mode Au				
Spectrui Ref Levi Att IPk Max	mal 20.30 dBm			BW 1 MHz	Mode Au				
Spectrui Ref Levo Att) 1Pk Max 10 dBm	mal 20.30 dBm			BW 1 MHz	Mode Au				
Spectrui Ref Levo Att) 1Pk Max 10 dBm	mal 20.30 dBm			BW 1 MHz	Mode Au				2.4 GHz (₩ 34.89 dBr 2.4995 GH
Spectrui Ref Levi Att 1Pk Max 10 dBm 0 dBm 10 dBm	m	SWT		BW 1 MHz	Mode Au				
Spectrum Ref Levi Att 10 dBm	mal 20.30 dBm	SWT		BW 1 MHz	Mode Au				
Spectrum Ref Levi Att 10 dBm	m	SWT		BW 1 MHz	Mode Au				
Spectrum Ref Levo Att 10 dBm	m	SWT		BW 1 MHz	Mode Au				
Spectrum Ref Levo Att 10 dBm	m al 20.30 dBm 30 dB	SWT	90.1 ms V	BW 1 MHz BW 3 MHz	Mode Au	1[1]			(34.89 dBr 2,4995 GH
Spectrui Ref Levi Att 11Pk Max 0 dBm	m	dBm-		BW 1 MHz BW 3 MHz	Mode Au				
Spectrum Ref Levi Att 10 dBm	m al 20.30 dBm 30 dB	SWT	90.1 ms V	BW 1 MHz BW 3 MHz	Mode Au	1[1]			(34.89 dBr 2,4995 GH
Spectrum Ref Levi Att 11Pk Max 0 dBm	m al 20.30 dBm 30 dB	SWT	90.1 ms V	BW 1 MHz BW 3 MHz	Mode Au	1[1]			(34.89 dBr 2,4995 GH
Spectrui Ref Levi Att 11Pk Max 0 dBm	m al 20.30 dBm 30 dB	SWT	90.1 ms V	BW 1 MHz BW 3 MHz	Mode Au	1[1]			(34.89 dBr 2,4995 GH

Channel 9 (2452MHz) Reference Level: 0.02dBm

Spectrum			
Ref Level 20.30 dBm	Offset 0.30 dB 👄 RBW 1 MH	Z	
Att 30 dB	SWT 2.4 ms 👄 VBW 3 MH	z Mode Auto Sweep	
●1Pk Max			
		M1[1]	-32.75 dBm 2.39480 GHz
10 dBm			
0 dBm			
-10 dBm			
-20 dBm D1 -19.980 c	IBm		
-30 dBm			
-40 dBm			
4 -50 dBm www.hore-devidence.com	burnet gold a state of a state of the state	and the second s	mangen and man and the second
-60 dBm			
-70 dBm			
Start 1.0 MHz	69	1 pts	Stop 2.4 GHz

Spectrum	')								
Ref Level Att	20.30 dBm 30 dB		0.30 dB 👄 🖡 90.1 ms 👄 🛛		Mode Au	uto Sweep			
⊖1Pk View			1	I					
					м	2[1]			41.91 dBm 9.7985 GHz
10 dBm					M	1[1]		-	25.08 dBm
						I	1	1	2.4995 GHz
0 dBm									
-10 dBm									
-20 dBm 1	D1 -19.980	dBm							
- -30 dBm									
-30 ubiii									
-40 dBm			M2						
-salabid						hours	a dortwork	n	have been
50, dBm	withtar	Lamburn	nowwww	white when	where is		8 A M	o contrativo co	MUMIO VOIN
-60 dBm									
-70 dBm									
Start 2.483	35 GHz			691	pts			Stop	25.0 GHz

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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.

- [X] Not required, since all emissions are more than 20dB below fundamental
- [] See attached data sheet

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.

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 $dB\mu V/m$ RA = Receiver Amplitude (including preamplifier) in $dB\mu V$ 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.

Level in mV/m = Common Antilogarithm [(42 dB μ V/m)/20] = 125.9 μ V/m

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.

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

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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	Reading	Pre-	Antenna	Net	Limit	Margin					
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)					
			Gain	(dB)	(dBµV/m)	(dBµV/m)						
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11b (TX-Channel 01)

Radiated Emissions

Polarization	Frequency	Reading	Pre-	Antenna	Net	Peak Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11b (TX-Channel 06)

Radiated Emissions

Polarization		Reading		Antenna		Peak Limit	Margin
	(MHz)	(dBµV)	Amp Gain	Factor (dB)	at 3m (dBµV/m)	at 3m (dBµV/m)	(dB)
			(dB)	(UD)	(uoµv/m)	(uoµv/m)	
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 (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11b (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11g (TX-Channel 01)

Radiated Emissions

Polarization	Frequency	Reading	Pre-	Antenna	Net	Peak Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11g (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/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 (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11g (TX-Channel 11)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp	Antenna Factor	Net at 3m	Peak Limit at 3m	Margin (dB)
		(ивру)	Gain	(dB)	(dBµV/m)	(dBµV/m)	(ub)
			(dB)	(UD)	(uphy/m)	(ασμν/π)	
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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11n-HT20 (TX-Channel 01)

Radiated Emissions

Polarization	Frequency	Reading		Antenna		Peak Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11n-HT20 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain (dB)	(dB)	(dBµV/m)	(dBµV/m)	
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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11n-HT20 (TX-Channel 11)

Radiated Emissions

Polarization	Frequency	Reading	Pre-	Antenna	Net	Peak Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11n-HT40 (TX-Channel 03)

Radiated Emissions

Polarization	Frequency	Reading		Antenna		Peak Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11n-HT40 (TX-Channel 06)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/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 (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 2014 Model: HUAWEI Y520-U03 Mode: 802.11n-HT40 (TX-Channel 9)

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp	Antenna Factor	Net at 3m	Peak Limit at 3m	Margin (dB)
	(11112)	(abµv)	Gain	(dB)	(dBµV/m)	(dBµV/m)	(GD)
			(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	Reading	Pre-	Antenna	Net	Average Limit	Margin
	(MHz)	(dBµV)	Amp	Factor	at 3m	at 3m	(dB)
			Gain	(dB)	(dBµV/m)	(dBµV/m)	
			(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.

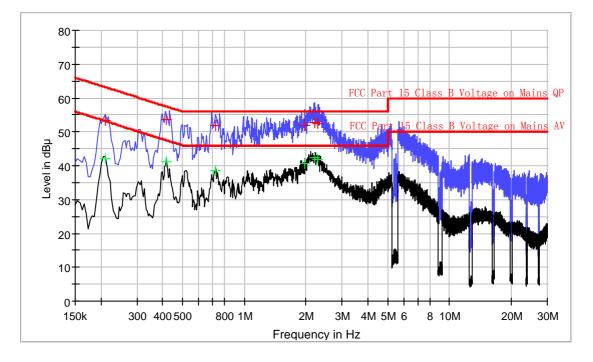
4.9 Conducted Emission

Worst Case 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.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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

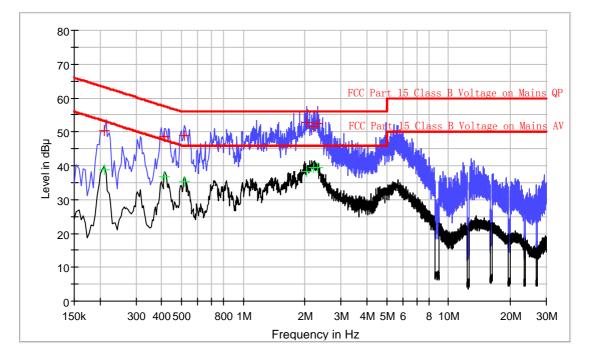
Frequency (MHz)	QuasiPeak (dB µ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
0.210	53.2	L1	9.8	10.0	63.2
0.418	53.5	L1	9.8	4.0	57.5
0.726	51.9	L1	10.0	4.1	56.0
1.966	51.9	L1	10.0	4.1	56.0
2.202	52.8	L1	10.0	3.2	56.0
2.294	52.4	L1	10.0	3.6	56.0

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

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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	Ν	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	Ν	10.1	14.4	53.2
0.414	36.7	Ν	10.1	10.9	47.6
0.518	35.3	Ν	10.2	10.7	46.0
2.042	38.1	Ν	10.3	7.9	46.0
2.198	39.3	Ν	10.3	6.7	46.0
2.314	39.5	Ν	10.3	6.5	46.0

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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
- [x] Included in the separated report.

Applicant: Huawei Technologies Co.,Ltd Date of Test: July 25, 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
х	Not applicable, duty cycle was not used.

EXHIBIT 5

EQUIPMENT PHOTOGRAPHS

5.0 Equipment Photographs

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

EXHIBIT 6

PRODUCT LABELLING

6.0 Product Labelling

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

EXHIBIT 7

TECHNICAL SPECIFICATIONS

7.0 Technical Specifications

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

EXHIBIT 8

INSTRUCTION MANUAL

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.

EXHIBIT 9

MISCELLANEOUS INFORMATION

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.

EXHIBIT 10

TEST EQUIPMENT LIST

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
SZ061-09	Horn Antenna	ETS	3115	00092346	16-Nov-2013	16-Nov-2014
SZ061-07	Pyramidal Horn Antenna	ETS	3160-09	00083067	27-Aug-2013	27-Aug-2014
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	3008A024 74	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		19-Apr-2014	19-Oct-2014
SZ062-05	RF Cable	RADIALL	0.04- 26.5GHz		19-Apr-2014	19-Oct-2014
SZ062-12	RF Cable	RADIALL	0.04- 26.5GHz		19-Apr-2014	19-Oct-2014
SZ067-04	Notch Filter	Micro-Tronics	BRM5070 2-02		21-May-2014	21-May-2015
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	9-Nov-2013	9-Nov-2014
SZ187-01	Two-Line V- Network	R&S	ENV216	100072	9-Nov-2013	9-Nov-2014
SZ187-02	Two-Line V- Network	R&S	ENV216	100073	9-Nov-2013	9-Nov-2014
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-2013	23-Aug-2014