



# Spot Check Evaluation

**APPLICANT** : Xiaomi Communications Co., Ltd.  
**EQUIPMENT** : Mobile Phone  
**BRAND NAME** : Redmi  
**MODEL NAME** : 2201116SR  
**FCC ID** : 2AFZZ16SR  
**STANDARD** : 47 CFR Part 15 Subpart C §15.225  
47 CFR Part 15 Subpart C §15.247  
47 CFR Part 15 Subpart E §15.407

We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager



**Sporton International (Kunshan) Inc.**

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People's Republic of China



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# 1 General Description

## 1.1 Applicant

**Xiaomi Communications Co., Ltd.**

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.2 Manufacturer

**Xiaomi Communications Co., Ltd.**

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Redmi
Model Name	2201116SR
FCC ID	2AFZZ16SR
EUT supports Radios application	GSM/WCDMA/LTE/NFC/5G NR WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE, GNSS, FM
HW Version	P1.1
SW Version	MIUI 13
EUT Stage	Identical Prototype

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.5 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	<b>Sporton Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH06-KS TH01-KS	CN1257	314309



## 2 Re-use of Measured Data

### 2.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 2201116SR, FCC ID: 2AFZZ16SR) is electrically identical to the reference device (Model: 2201116SG, FCC ID: 2AFZZ16SG) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15C, 15E reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: 2AFZZ16SR .

### 2.2 Model Difference Information

The main difference between FCC ID: 2AFZZ16SG and FCC ID: 2AFZZ16SR is as below:

- Remove LTE Band 32/66 and 5G NR n66.
- Add LTE Band 42

Other differences and all the details of similarity and difference can be found in the confidential documents (2201116PG\_Operational Description of Product Equality Declaration).

### 2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID(Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Report Title/Section
15C	DSS (BR/EDR)	2400~2483.5	2AFZZ16SG	Original Grant	FR1N2204AD	2AFZZ16SR	All sections applicable
	DTS (BLE)	2400~2483.5	2AFZZ16SG	Original Grant	FR1N2204AL	2AFZZ16SR	All sections applicable
	DTS (WLAN)	2400~2483.5	2AFZZ16SG	Original Grant	FR1N2204AC	2AFZZ16SR	All sections applicable
15E	U-NII-1	5180~5240	2AFZZ16SG	Original Grant	FR1N2204AN	2AFZZ16SR	All sections applicable
	U-NII-2A	5260~5320	2AFZZ16SG	Original Grant	FR1N2204AN	2AFZZ16SR	All sections applicable
	U-NII-2C	5500~5720	2AFZZ16SG	Original Grant	FR1N2204AN	2AFZZ16SR	All sections applicable
	U-NII-3	5745~5825	2AFZZ16SG	Original Grant	FR1N2204AN	2AFZZ16SR	All sections applicable
	DFS	5250~5350 5470~5725	2AFZZ16SG	Original Grant	FZ1N2204	2AFZZ16SR	All sections applicable



### 2.4 Spot Check Verification Data Section

Conducted power test and radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model

Summary for power and RSE spot check for each rule entry and technology is listed as below:

Test Item	Mode	2AFZZ16SG Parent Worst Result	2AFZZ16SR Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT BR/EDR	9.81	9.14	0.67
	BLE	5.88	5.56	0.32
	802.11b	19.09	17.98	1.11
	802.11g	18.73	17.99	0.74
	11n HT20	17.66	16.80	0.86
	11n HT40	15.36	14.71	0.65
	11a, 5.2GHz	18.11	17.18	0.93
	11n HT20, 5.2GHz	16.79	16	0.79
	11n HT40, 5.2GHz	15.93	15.08	0.85
	11ac VHT20, 5.2GHz	17.17	15.95	1.22
	11ac VHT40, 5.2GHz	15.88	15.08	0.8
	11ac VHT80, 5.2GHz	14.77	14.15	0.62
	11a, 5.3GHz	18.21	17.63	0.58
	11n HT20, 5.3GHz	17.20	16.59	0.61
	11n HT40, 5.3GHz	16.43	15.75	0.68
	11ac VHT80, 5.3GHz	17.17	16.49	0.68
	11ac VHT20, 5.3GHz	16.43	15.66	0.77
	11ac VHT40, 5.3GHz	14.71	14.35	0.36
	11a, 5.5GHz	18.15	17.31	0.84
	11n HT20, 5.5GHz	17.08	16.18	0.9
	11n HT40, 5.5GHz	16.35	15.24	1.11
	11ac VHT20, 5.5GHz	17.16	16.20	0.96
	11ac VHT40, 5.5GHz	16.34	15.19	1.15
	11ac VHT80, 5.5GHz	15.02	14.08	0.94
	11a, 5.8GHz	16.51	15.87	0.64
	11n HT20, 5.8GHz	15.47	14.82	0.65
	11n HT40, 5.8GHz	14.54	13.70	0.84
	11ac VHT20, 5.8GHz	15.41	14.82	0.59
	11ac VHT40, 5.8GHz	14.58	13.73	0.85
	11ac VHT80, 5.8GHz	13.43	12.55	0.88



Test Item	Mode	2AFZZ16SG Parent Worst Result	2AFZZ16SR Variant Check Result	Difference (dB)
Radiated Spurious Emission ( dBm)	BT BR/EDR	-13.95	-19.50	5.55
	BLE	-3.13	-8.31	5.18
	11n40 CH08	-3.14	-5.82	2.68
	11ac40 CH110	-3.06	-7.95	4.89
	11ac80 CH155	-4.28	-15.74	11.46

Conclusion:

Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result, the test data from the original model is representative for the variant model. The power level and RSE spot check are shown within expected level compliant to limit line.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.



### 3 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 14, 2021	Dec. 30, 2021	Oct. 13, 2022	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	Dec. 30, 2021	Aug. 25, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 16, 2021	Jan. 01, 2022	Oct. 15, 2022	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz	Apr. 12, 2021	Jan. 01, 2022	Apr. 11, 2022	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Jan. 01, 2022	Oct. 29, 2022	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz~1GHz	May 27, 2021	Jan. 01, 2022	May 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 25, 2021	Jan. 01, 2022	Apr. 24, 2022	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 06, 2021	Jan. 01, 2022	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 12, 2021	Jan. 01, 2022	Apr. 11, 2022	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 06, 2021	Jan. 01, 2022	Jan. 05, 2022	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-10P	2025788	1Ghz~18Ghz	Jan. 06, 2021	Jan. 01, 2022	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5G Hz	Apr. 13, 2021	Jan. 01, 2022	Apr. 12, 2022	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 01, 2022	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 01, 2022	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 01, 2022	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required.

-THE END-