

Prüfbericht-Nr.: Test report no.:	CN24CMA8 001	Auftrags-Nr.: Order no.:	168516453	Seite 1 von 23 Page 1 of 23			
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2024-12-02				
Auftraggeber: Client:	LEEDARSON LIGHTING CO., LTD. Xingda Road, Xingtai Industrial Zone, Changtai County, Zhangzhou, Fujian, China						
Prüfgegenstand: Test item:	LED Smart Bulb						
Bezeichnung / Typ-Nr.: Identification / Type no.:	14aSA-C500ST-E1T_NA_2P, 14ySA-C500ST-E1T_NA_xP(Where "y" may be "a" to "z", which designates for different enclosure pattern design; "x and xx" may be "0" to "99", which designates for different package of style)						
Auftrags-Inhalt: Order content:	Test Report						
Prüfgrundlage: Test specification:	CFR47 FCC Part 15: Subpart C Section 15.247 RSS-247 Issue 3 August 2023 RSS-Gen Issue 5 February 2021						
Wareneingangsdatum: Date of sample receipt:	2024-12-06	Please refer to Photo Document					
Prüfmuster-Nr.: Test sample no.:	A003877474-001~004						
Prüfzeitraum: Testing period:	2024-12-06 - 2024-12-17						
Ort der Prüfung: Place of testing:	TÜV Rheinland (Shenzhen) Co., Ltd.						
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.						
Prüfergebnis*: Test result*:	Pass						
geprüft von: tested by:			genehmigt von: authorized by:				
Datum: Date:	2024-12-19	Signed by: Jonathan Li		Ausstellungsdatum: Issue date:	2024-12-19	Signed by: Bell Hu	
Stellung / Position:	Sachverständige(r)/Expert			Stellung / Position:	Sachverständige(r)/Expert		
Sonstiges / Other:	FCC ID: 2AB2Q14AC500ST IC: 10256A-14AC500ST, HVIN: 14aSA-C500ST-E1T_NA						
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged						
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet						
* Legend:	P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested						
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>							

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Anmerkungen
Remarks

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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

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Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 MAXIMUM CONDUCTED OUTPUT POWER

RESULT: Pass

5.1.3 CONDUCTED POWER SPECTRAL DENSITY

RESULT: Pass

5.1.4 6dB BANDWIDTH

RESULT: Pass

5.1.5 99% BANDWIDTH

RESULT: Pass

5.1.6 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHz BANDWIDTH

RESULT: Pass

5.1.7 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.8 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

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

Appendix A: Test Results of Bluetooth BLE;

Appendix B: Test Results of 2.4GHz Wi-Fi;

Appendix C: Photographs of Test Set-up.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China.

FCC Registration No.: 694916

ISED Wireless Device Testing Laboratory: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum Testing (SRD-Tonscend)				
Equipment	Manufacturer	Model	Serial No.	Cal. until
EXA Signal Analyzer, Multi-touch	Keysight	N9010B	MY60241175	25.09.2025
MXG X-Series RF Vector Signal Generator	Keysight	N5182B	MY61250137	25.09.2025
EXG X-Series Microwave Analog Signal Generator	Keysight	N5173B	MY61250141	25.09.2025
DC Power Supply	Keysight	E3642A	MY61276100	25.09.2025
Wireless Connectivity Tester	R&S	CMW270	102505	25.09.2025
Power Control Unit	Tonscend	JS0806-4ADC	N/A	25.09.2025
Automation Control Unit	Tonscend	JS0806-2	21C8060396	25.09.2025
Test Software	Tonscend	JS1120-3	N/A	N/A
Control PC	Lenovo	TianYi510S-071MB	YLX23JMF	N/A
Unwanted Emission Testing (TS9975)				
Equipment	Manufacturer	Model	Serial No.	Cal. until
EMI Test Receiver	R&S	ESR 7	102021	28.09.2025
Signal Analyzer	R&S	FSV 40	101439	28.09.2025
System Controller Interface	R&S	SCI-100	S10010038	N/A
Filterbank	R&S	Wlan	100759	28.09.2025
OSP	R&S	OSP 120	102040	N/A
Pre-amplifier	R&S	SCU08F1	08320031	28.09.2025
Amplifier	R&S	SCU-18F	180070	28.09.2025
Amplifier	R&S	SCU40A	100475	28.09.2025
Trilog Broadband Antenna (30 MHz - 7 GHz)	Schwarzbeck	VULB 9162	193	27.09.2026
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	27.09.2026
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	27.09.2026
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	27.09.2026
Test software	R&S	EMC32 (V10.60.10)	N/A	N/A

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Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	13.09.2027

Conducted Emission				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR3	102680	2025-02-22
Artificial Mains Network	R&S	ENV216	102333	2025-07-22
EMC32 test software	R&S	EMC32(Ver.10.50.00)	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table.

Table 2: Measurement Uncertainty

Parameter	Uncertainty (k=2)
RF output power, conducted	± 0.99 dB
Occupied Channel Bandwidth	± 2.08 %
RF power density, conducted	± 0.99 dB
Unwanted Emissions, conducted	± 0.89 dB
All emissions, radiated	± 4.17 dB
Conducted Emission, (9kHz to 150kHz)/(150kHz to 30MHz)	± 3.70 dB / ± 3.30 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B & C of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huanguan Road Middle, Longhua District, 518110, Shenzhen, P. R. China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) is a LED Smart Bulb which support BLE and 2.4GHz Wi-Fi wireless technology.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	LED Smart Bulb
Type Designation	14aSA-C500ST-E1T_NA_2P, 14ySA-C500ST-E1T_NA_xP(Where "y" may be "a" to "z", which designates for different enclosure pattern design; "x and xx" may be "00" to "99", which designates for different package of style)
FCC ID:	2AB2Q14AC500ST
IC:	10256A-14AC500ST
HVIN:	14aSA-C500ST-E1T_NA
Operating Voltage	AC120V/60Hz
Testing Voltage	AC120V/60Hz
Technical Specification of Bluetooth	
Operating Frequency	2402-2480MHz
Type of Modulation	GFSK
Data Rate	1Mbps, 2Mbps
Channel Number	40 channels for Bluetooth BLE
Channel Separation	1MHz and 2MHz
Antenna Type	Integral Antenna
Antenna Number	1Tx1Rx
Antenna Gain	-1.74 dBi (Provided by the Client)
The type of wideband data transmission equipment	Non-FHSS for Bluetooth BLE
Technical Specification of 2.4GHz Wi-Fi	
Operating Frequency	2412 - 2462MHz for 802.11b/g/n(HT20) 2422 - 2452MHz for 802.11n(HT40)
Type of Modulation	DSSS(DBPSK/DQPSK/CCK) OFDM(BPSK/QPSK/16QAM/64QAM)
Data Rate	1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 for 802.11n
Channel Number	11 channels for 802.11b/g/n(HT20) 7 channels for 802.11n(HT40)
Channel Separation	5 MHz
Antenna Type	Integral Antenna

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Antenna Number	1Tx1Rx
Antenna Gain	-1.74 dBi (Provided by the Client)
The type of wideband data transmission equipment	DTS

Table 4: RF Channel and Frequency of Bluetooth LE

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

Table 5: RF Channel and Frequency of 2.4GHz Wi-Fi 802.11 b/g/n

RF Channel	802.11 b/g/n(HT20)	802.11 n(HT40)
	Frequency (MHz)	Frequency (MHz)
01	2412	
02	2417	
03	2422	2422
04	2427	2427
05	2432	2432
06	2437	2437
07	2442	2442
08	2447	2447
09	2452	2452
10	2457	
11	2462	

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Bluetooth BLE wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- B. On, 2.4GHz Wi-Fi wireless transmitting mode
 - 1) Low Channel
 - 2) Middle Channel
 - 3) High Channel
- C. On, Normal Operation
- D. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- | | |
|------------------------------|-------------------------|
| - Application Form | - Operation Description |
| - ID Label and Location Info | - Block Diagram |
| - Schematics | - PCB Layout |

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model 14aSA-C500ST-E1T_NA_2P in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 6: Auxiliary Equipment Used during Test

Description	Manufacturer	Model	S/N
Laptop	Lenovo	T480	PF-16A6N8

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

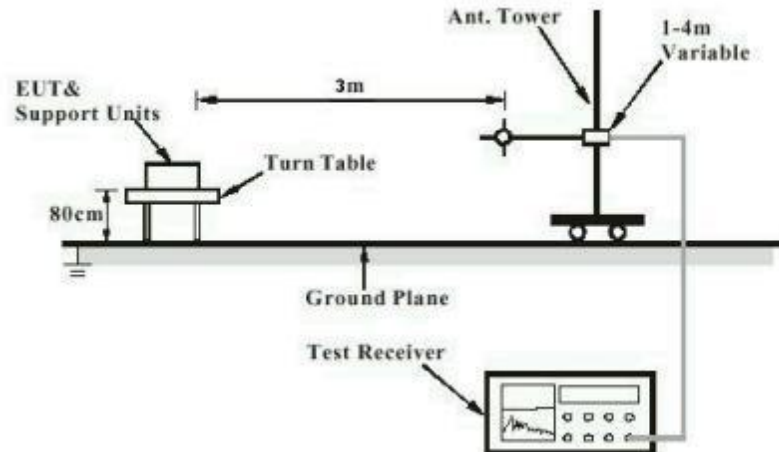


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

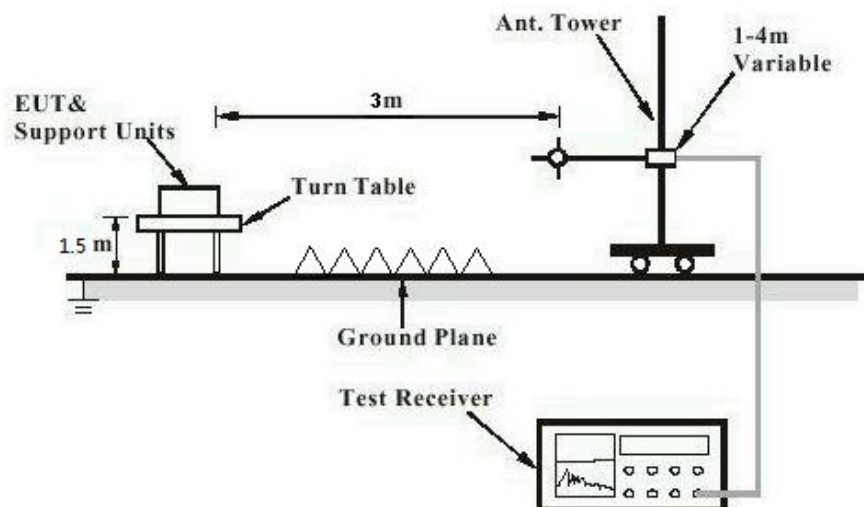


Diagram of Measurement Configuration for Mains Conduction Measurement

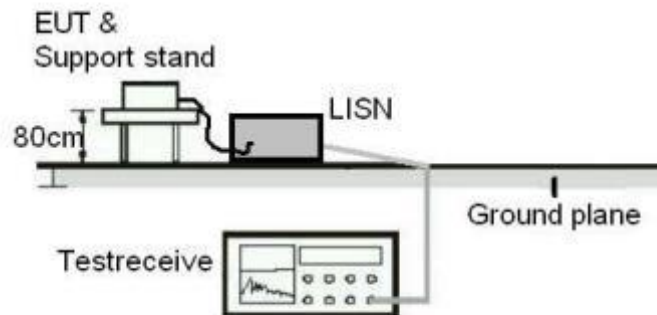
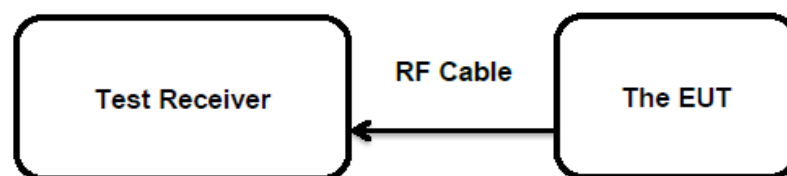


Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.247(b)(4) and Part 15.203
RSS-Gen Clause 6.8

According to the manufacturer declared, the EUT has an internal antenna, the directional gain of antenna is -1.74dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

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5.1.2 Maximum Conducted Output Power

RESULT:

Pass

Test Specification

Test standard	:	FCC Part 15.247(b)(3) RSS-247 Clause 5.4(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	1.0 Watts
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-12-06 - 2024-12-17
Input voltage	:	AC120V/60Hz
Operation mode	:	A, B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For details refer to following test result.

Table 7: Test Result of Maximum Conducted Output Power, Bluetooth LE

Test Mode	Data Rate	Test Channel (MHz)	Measured Peak Power		Limit (W)
			(dBm)	(W)	
GFSK (BLE)	1 Mbps	2402	13.73	0.0236	< 1.0
		2440	14.17	0.0261	
		2480	14.78	0.0301	
	2 Mbps	2402	12.83	0.0192	
		2440	14.13	0.0259	
		2480	14.72	0.0296	
Max. e.i.r.p.=14.78dBm-1.74dBi=13.04dBm, which is less than 36dBm=4W.					

Table 8: Test Result of Maximum Conducted Output Power, Wi-Fi 802.11 b/g/n

Test Mode	Data Rate	Test Channel (MHz)	Measured Average Power		Limit (W)
			(dBm)	(W)	
802.11b	1 Mbps	2412	19.06	0.0805	< 1.0
		2437	18.98	0.0791	
		2462	17.95	0.0624	
802.11g	6 Mbps	2412	22.38	0.1730	
		2437	22.09	0.1618	
		2462	21.39	0.1377	
802.11n (HT20)	MCS0	2412	21.61	0.1449	
		2437	22.79	0.1901	
		2462	21.89	0.1545	
802.11n (HT40)	MCS0	2422	22.25	0.1679	
		2437	21.91	0.1552	
		2452	21.55	0.1429	
Max. e.i.r.p.=22.25dBm-1.74dBi=20.51dBm, which is less than 36dBm=4W.					

Note:

- 1) The cable loss is taken into account in results.
- 2) Antenna gain(G) : -1.74dBi
e.i.r.p.=P_(Conducted power)+ G, which is far below the 4 W

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5.1.3 Conducted Power Spectral Density

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(e) RSS-247 Clause 5.2(b)
Basic standard	: ANSI C63.10: 2013
Limits	: < 8 dBm / 3kHz
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-12-06 - 2024-12-17
Input voltage	: AC120V/60Hz
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B.

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5.1.4 6dB Bandwidth

RESULT:**Pass****Test Specification**

Test standard	:	FCC Part 15.247(a)(2) RSS-247 Clause 5.2(a)
Basic standard	:	ANSI C63.10: 2013
Limits	:	> 500 KHz
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-12-06 - 2024-12-17
Input voltage	:	AC120V/60Hz
Operation mode	:	A, B
Test channel	:	Low / Middle / High
Ambient temperature	:	25 °C
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix A, B.

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5.1.5 99% Bandwidth

RESULT:

Pass

Test Specification

Test standard	: RSS-Gen Clause 6.7
Basic standard	: ANSI C63.10: 2013
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-12-06 - 2024-12-17
Input voltage	: AC120V/60Hz
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B.

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5.1.6 Conducted Spurious Emissions Measured in 100 kHz Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d) RSS-247 Clause 5.5
Basic standard	: ANSI C63.10: 2013
Limits	: 20dB (below that in the 100kHz bandwidth within the band that contains the highest level of the desired power); In addition, radiated emissions which fall in the restricted bands, must also comply with the radiated emission limits specified in 15.209(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-12-06 - 2024-12-17
Input voltage	: AC120V/60Hz
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: 25 °C
Relative humidity	: 56 %
Atmospheric pressure	: 101 kPa

Test results of 100kHz Bandwidth of Frequency Band Edge by Conducted method refer to test plots, and compliance is achieved as well.

For the measurement records, refer to the appendix A, B.

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5.1.7 Radiated Spurious Emission

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.247(d) & FCC Part 15.205 RSS-247 Clause 3.3
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a) of FCC part 15.247(d) RSS-Gen Section 8.9 & 8.10
Kind of test site	: 3m Semi-anechoic Chamber

Test Setup

Date of testing	: 2022-02-08 to 2022-02-15
Input voltage	: AC120V/60Hz
Operation mode	: A, B
Test channel	: Low / Middle / High
Ambient temperature	: Refer to test result
Relative humidity	: Refer to test result
Atmospheric pressure	: 101 kPa

Remark:

Testing was carried out within frequency range 9kHz to the tenth harmonics. Only the worst case spurious emissions configuration of the each mode were reported.

For the measurement records, refer to the appendix A, B.

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5.1.8 Conducted Emission on AC Mains

RESULT:**Pass****Test Specification**

Test standard	: FCC Part 15.207(a) RSS-Gen Section 8.8
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a) RSS-Gen Table 4
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2022-02-08 to 2022-02-15
Input voltage	: AC 120V, 60Hz
Operation mode	: C
Earthing	: Not connected
Ambient temperature	: 25.0 °C
Relative humidity	: 51.2 %
Atmospheric pressure	: 101 kPa

For the measurement records, refer to the appendix A, B.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix C.

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Appendix A.1: Test Results of Maximum conducted output power

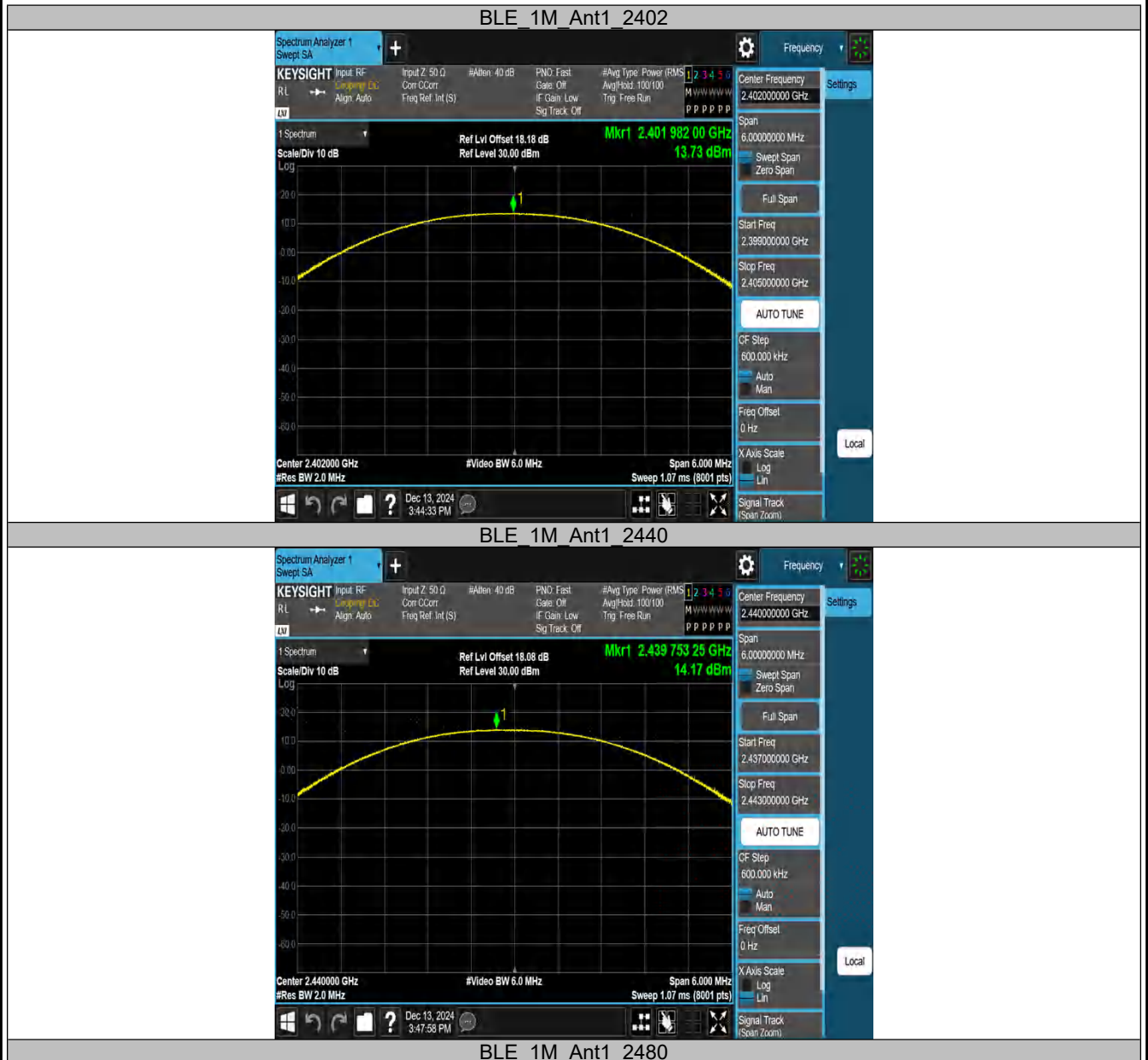
Test Result PK

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	13.73	≤30	PASS
		2440	14.17	≤30	PASS
		2480	14.78	≤30	PASS
BLE_2M	Ant1	2402	12.83	≤30	PASS
		2440	14.13	≤30	PASS
		2480	14.72	≤30	PASS

Test Result AV

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	12.42	≤30	PASS
		2440	13.11	≤30	PASS
		2480	13.21	≤30	PASS
BLE_2M	Ant1	2402	11.81	≤30	PASS
		2440	13.08	≤30	PASS
		2480	13.35	≤30	PASS

Test GraphsPK





BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480



Appendix A.2: Test Results of Conducted Power Spectral Density

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-1.65	≤8.00	PASS
		2440	-1.04	≤8.00	PASS
		2480	-0.57	≤8.00	PASS
BLE_2M	Ant1	2402	-4.09	≤8.00	PASS
		2440	-2.58	≤8.00	PASS
		2480	-2.23	≤8.00	PASS

BLE 1M Ant1 2402



BLE 1M Ant1 2440



BLE 1M Ant1 2480



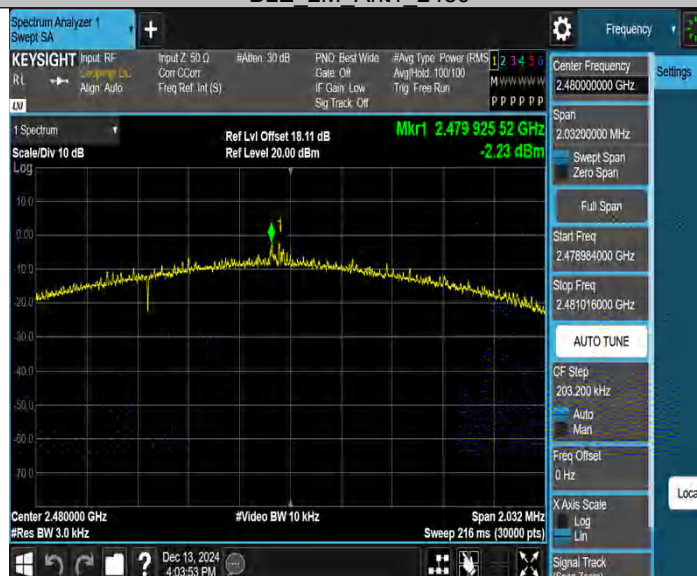
BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480



Appendix A.3: Test Results of 6dB Bandwidth

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.624	2401.636	2402.260	0.5	PASS
		2440	0.636	2439.608	2440.244	0.5	PASS
		2480	0.648	2479.600	2480.248	0.5	PASS
BLE_2M	Ant1	2402	1.104	2401.396	2402.500	0.5	PASS
		2440	1.076	2439.400	2440.476	0.5	PASS
		2480	1.016	2479.388	2480.404	0.5	PASS

BLE 1M Ant1 2402



BLE 1M Ant1 2440



BLE 1M Ant1 2480



BLE 2M Ant1 2402



BLE 2M Ant1 2440



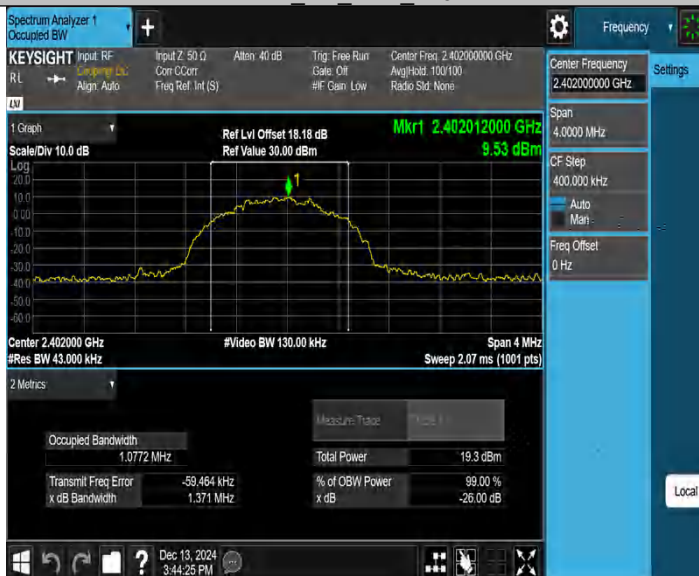
BLE 2M Ant1 2480



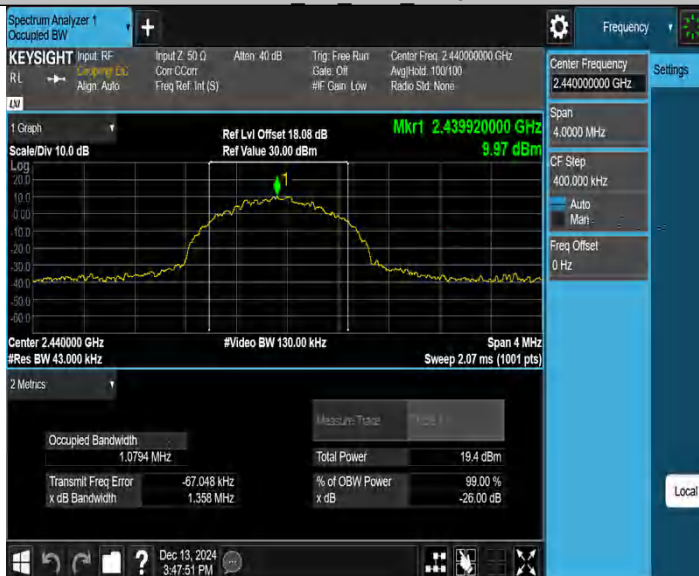
Appendix A.4: Test Results of 99% Bandwidth

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0772	2401.4019	2402.4791	---	---
		2440	1.0794	2439.3933	2440.4727	---	---
		2480	1.0788	2479.3915	2480.4703	---	---
BLE_2M	Ant1	2402	2.1179	2400.8879	2403.0058	---	---
		2440	2.0966	2438.8971	2440.9937	---	---
		2480	2.1214	2478.8827	2481.0041	---	---

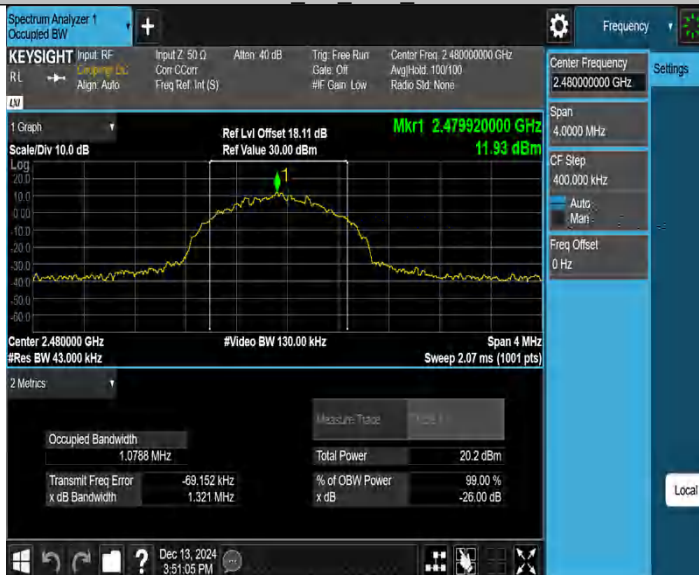
BLE 1M Ant1 2402



BLE 1M Ant1 2440



BLE 1M Ant1 2480



BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480



Appendix A.5: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

Band Edge

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	12.15	-40.69	≤-7.85	PASS
		High	2480	12.90	-44.57	≤-7.10	PASS
BLE_2M	Ant1	Low	2402	12.84	-42.03	≤-7.16	PASS
		High	2480	12.93	-43.81	≤-7.07	PASS

BLE 1M_Ant1_Low_2402



BLE 1M_Ant1_High_2480



BLE 2M_Ant1_Low_2402



BLE 2M_Ant1_High_2480



Conducted Spurious Emission

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	12.14	12.14	---	PASS
			30~1000	12.14	-41.32	≤-7.86	PASS
			1000~26500	12.14	-32.17	≤-7.86	PASS
		2440	Reference	14.45	14.45	---	PASS
			30~1000	14.45	-41.62	≤-5.55	PASS
			1000~26500	14.45	-31.99	≤-5.55	PASS
		2480	Reference	14.56	14.56	---	PASS
			30~1000	14.56	-41.57	≤-5.44	PASS
			1000~26500	14.56	-32.23	≤-5.44	PASS
BLE_2M	Ant1	2402	Reference	12.71	12.71	---	PASS
			30~1000	12.71	-41.31	≤-7.29	PASS
			1000~26500	12.71	-31.9	≤-7.29	PASS
		2440	Reference	14.01	14.01	---	PASS
			30~1000	14.01	-41.28	≤-5.99	PASS
			1000~26500	14.01	-31.17	≤-5.99	PASS
		2480	Reference	15.14	15.14	---	PASS
			30~1000	15.14	-40.83	≤-4.86	PASS
			1000~26500	15.14	-32.65	≤-4.86	PASS

BLE_1M_Ant1_2402_0~Reference



BLE_1M_Ant1_2402_30~1000



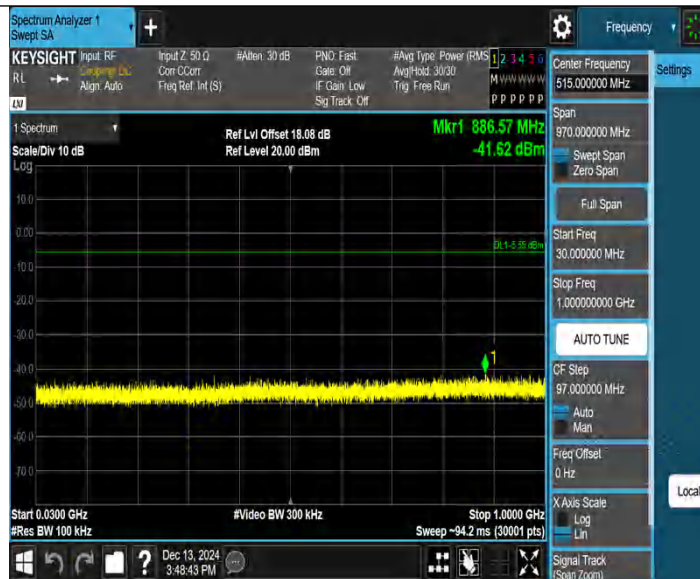
BLE 1M Ant1 2402 1000~26500



BLE 1M Ant1 2440 0~Reference



BLE 1M Ant1 2440 30~1000



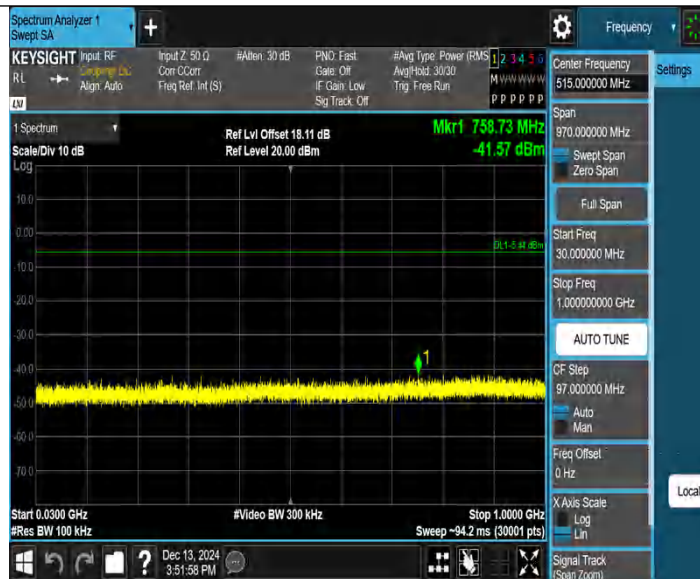
BLE 1M Ant1 2440 1000~26500



BLE 1M Ant1 2480 0~Reference



BLE 1M Ant1 2480 30~1000



BLE 1M Ant1 2480 1000~26500



BLE 2M Ant1 2402 0~Reference



BLE 2M Ant1 2402 30~1000



BLE 2M Ant1 2402 1000~26500



BLE 2M Ant1 2440 0~Reference



BLE 2M Ant1 2440 30~1000



BLE 2M Ant1 2440 1000~26500



BLE 2M Ant1 2480 0~Reference



BLE 2M Ant1 2480 30~1000



BLE 2M Ant1 2480 1000~26500



Appendix A.6: Test Results of Radiated Spurious Emissions

Note:

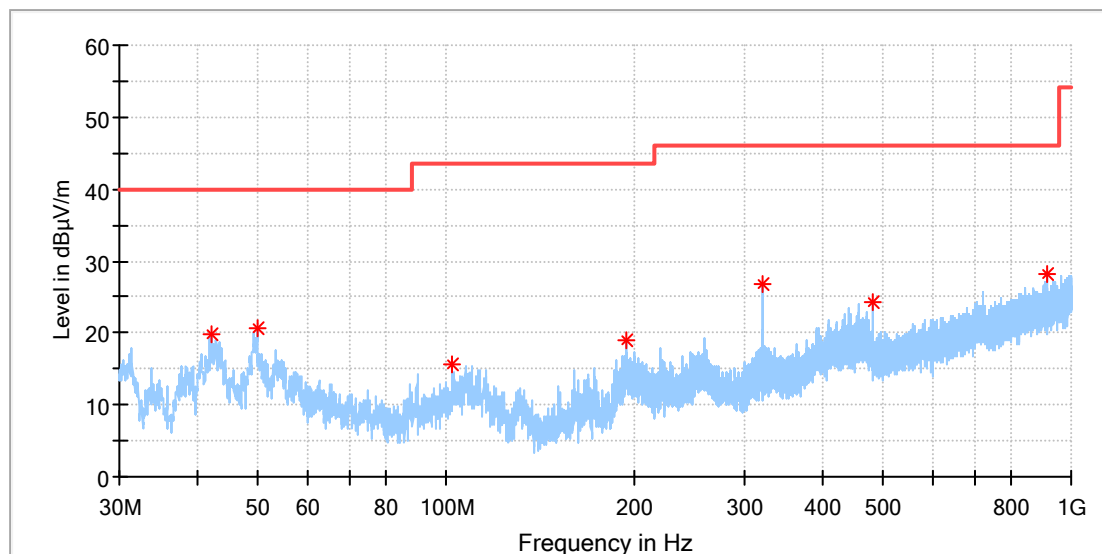
- 1) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30 MHz - 1GHz(Worst case)

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
42.087692	19.87	40.00	20.13	100.0	H	163.0	-19.7
49.847692	20.54	40.00	19.46	100.0	H	187.0	-18.4
101.929231	15.58	43.50	27.92	100.0	H	229.0	-19.0
193.706154	19.02	43.50	24.48	100.0	H	245.0	-19.4
319.992692	26.89	46.00	19.11	100.0	H	7.0	-15.7
480.005385	24.31	46.00	21.69	100.0	H	354.0	-12.1
913.856539	28.21	46.00	17.79	100.0	H	132.0	-4.7

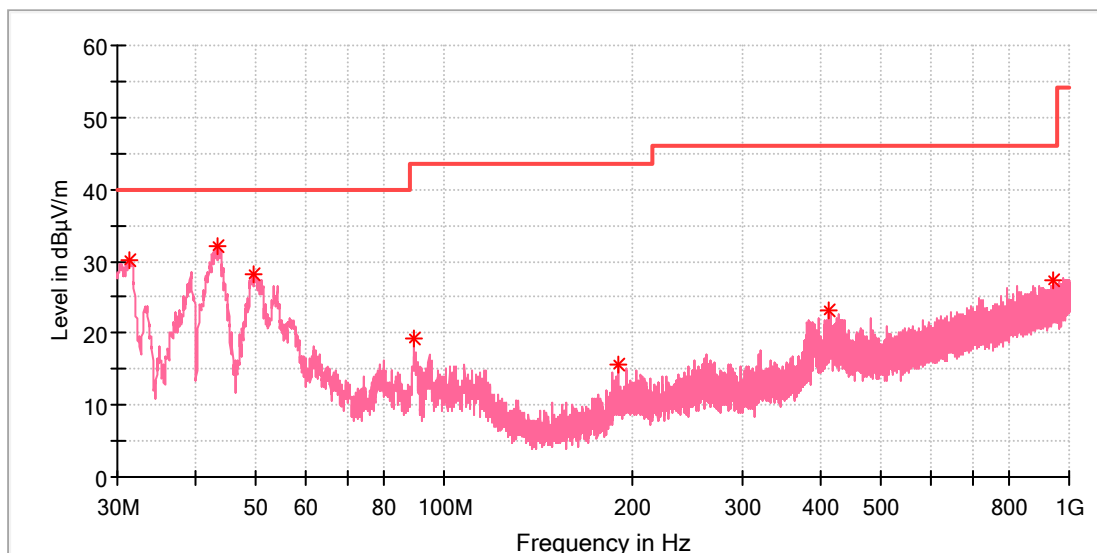
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.380385	30.07	40.00	9.93	100.0	V	214.0	-22.8
43.281539	31.98	40.00	8.02	100.0	V	143.0	-19.3
49.735769	28.25	40.00	11.75	100.0	V	189.0	-18.4
89.617692	19.33	43.50	24.17	100.0	V	181.0	-21.2
190.385769	15.54	43.50	27.96	100.0	V	206.0	-19.6
411.918846	23.08	46.00	22.92	100.0	V	269.0	-13.4
944.374231	27.25	46.00	18.75	100.0	V	197.0	-4.3

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

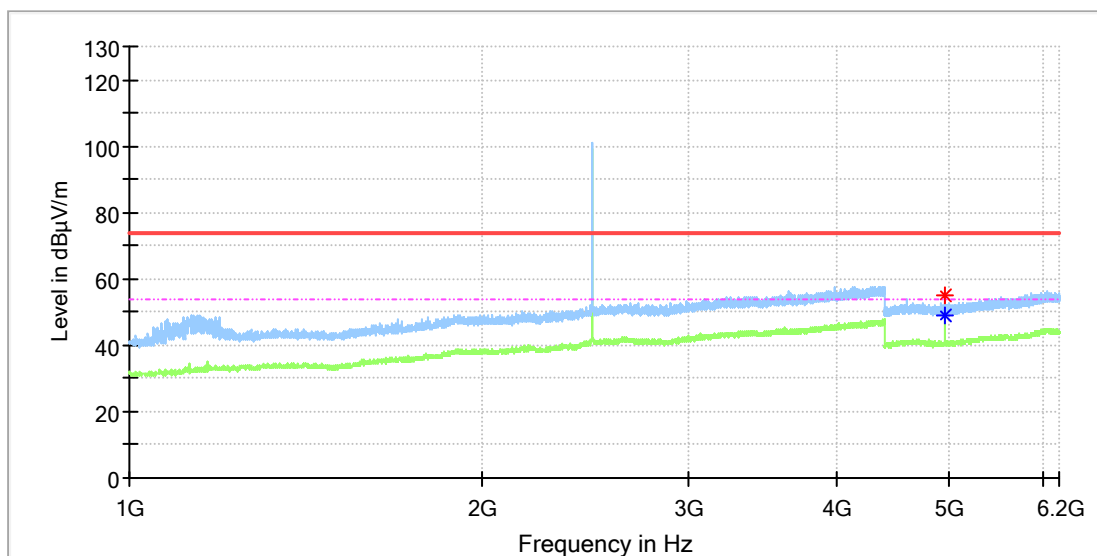
1GHz - 18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental. The test were performed on Lowest, middle, highest channels, here just show the worst case result.

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	55.31	---	74.00	18.69	150.0	H	203.0	13.3
4960.000000	---	48.94	54.00	5.06	150.0	H	203.0	13.3

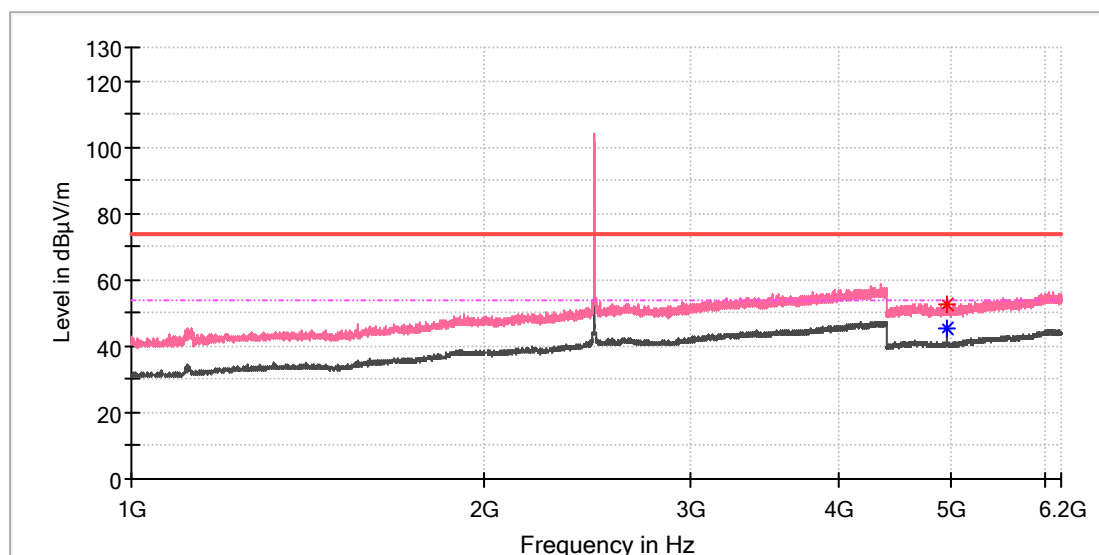
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: BLE 1M_High channel
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	---	45.22	54.00	8.78	150.0	V	178.0	13.3
4960.000000	52.67	---	74.00	21.33	150.0	V	178.0	13.3

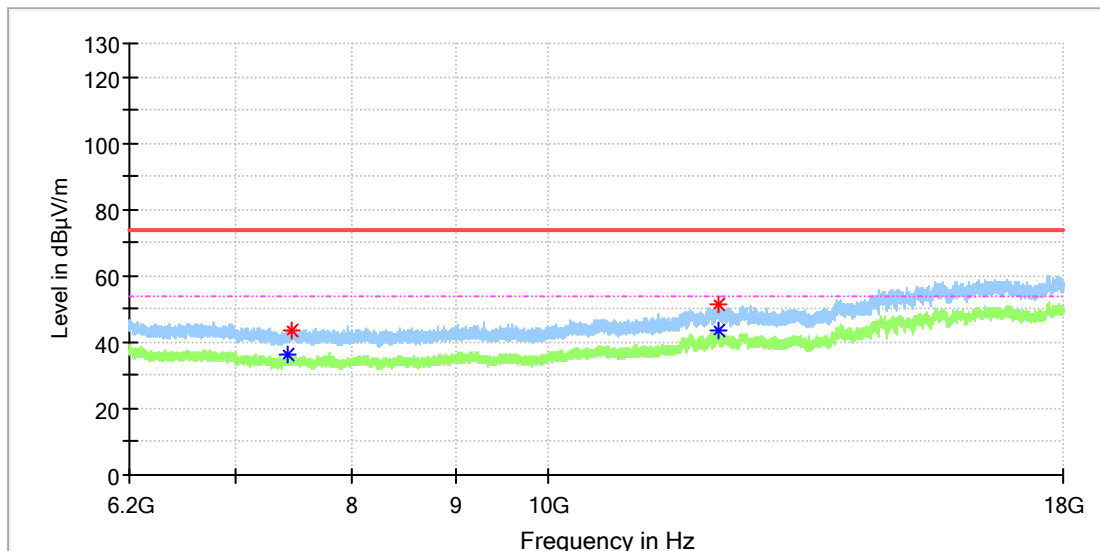
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 1M_High channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7435.066667	---	36.25	54.00	17.75	150.0	H	277.0	8.4
7458.666667	43.31	---	74.00	30.69	150.0	H	82.0	8.5
12147.200000	---	43.74	54.00	10.26	150.0	H	0.0	16.7
12152.116667	51.60	---	74.00	22.40	150.0	H	17.0	16.6

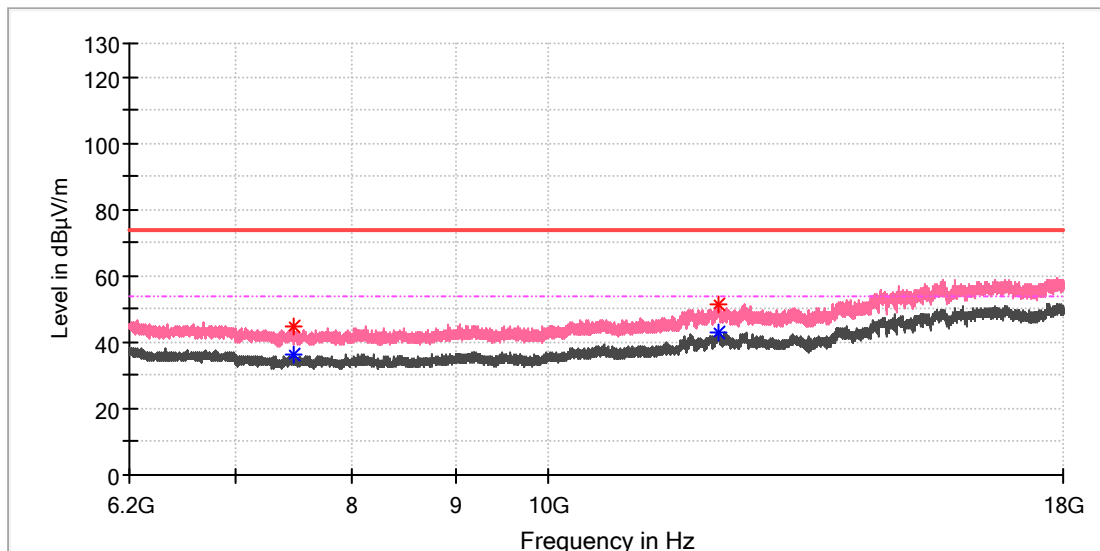
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 1M_High channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7475.875000	44.47	---	74.00	29.53	150.0	V	248.0	8.6
7479.808333	---	36.10	54.00	17.90	150.0	V	353.0	8.7
12138.841667	51.32	---	74.00	22.68	150.0	V	114.0	16.4
12152.608333	---	43.07	54.00	10.93	150.0	V	190.0	16.6

Final Result

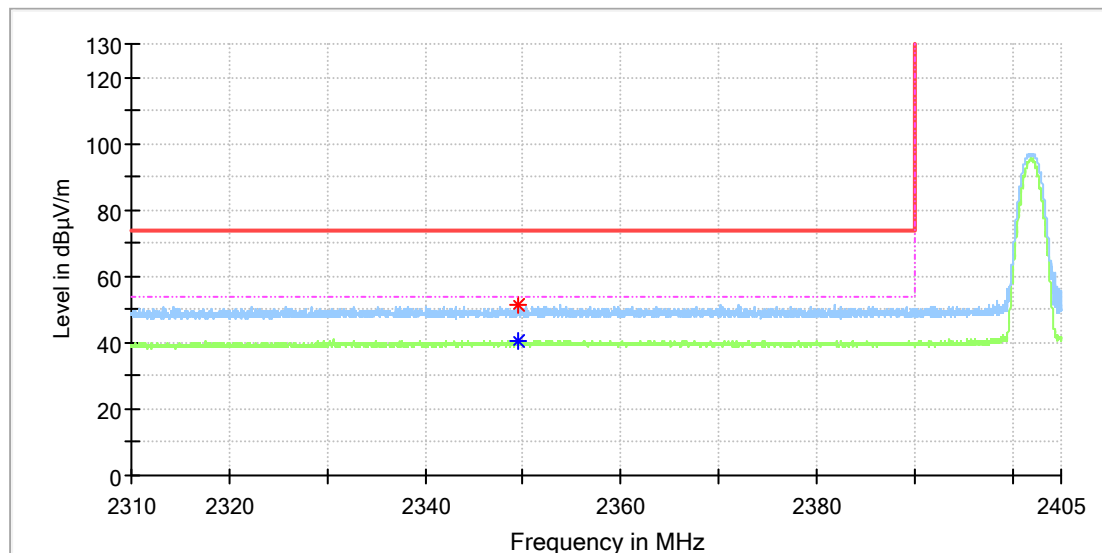
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Appendix A.7: Test Results of Radiated Emissions in Restricted Bands

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 1M_Low channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2349.508824	51.46	---	74.00	22.54	150.0	H	290.0	8.5
2349.550735	---	40.31	54.00	13.69	150.0	H	328.0	8.5

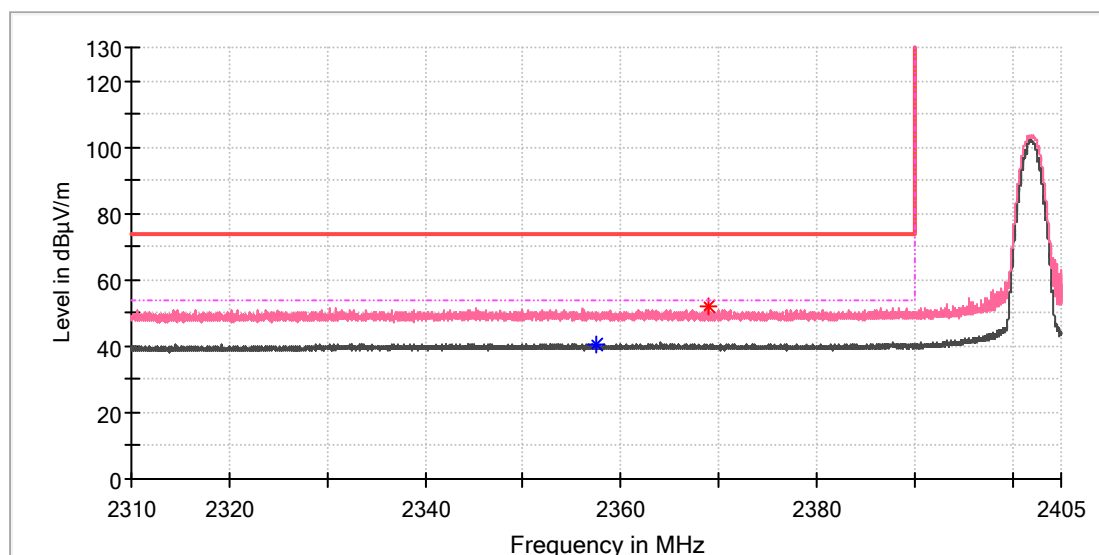
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: BLE 1M_Low channel
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2357.402206	---	40.77	54.00	13.23	150.0	V	247.0	8.5
2368.900000	51.74	---	74.00	22.26	150.0	V	191.0	8.5

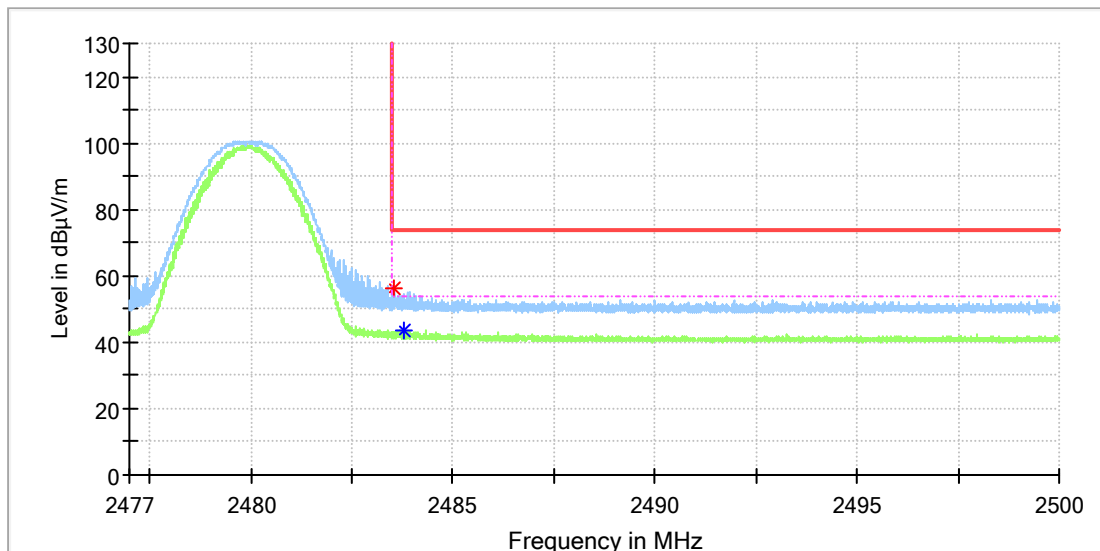
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 1M_High channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.566177	56.37	---	74.00	17.63	150.0	H	211.0	9.0
2483.801471	---	43.40	54.00	10.60	150.0	H	327.0	9.0

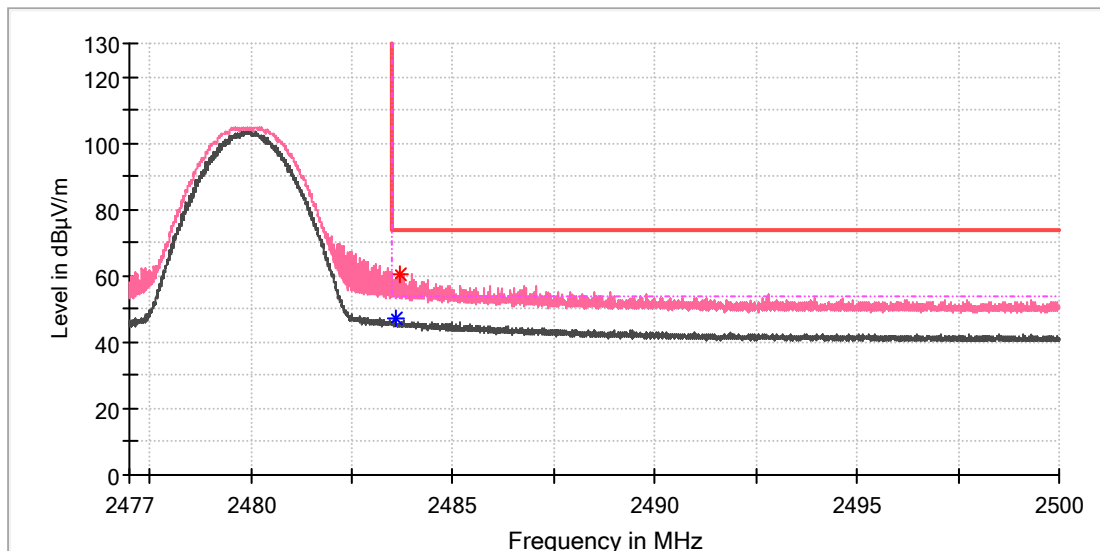
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 1M_High channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.606618	---	46.87	54.00	7.13	150.0	V	42.0	9.0
2483.683824	60.32	---	74.00	13.68	150.0	V	208.0	9.0

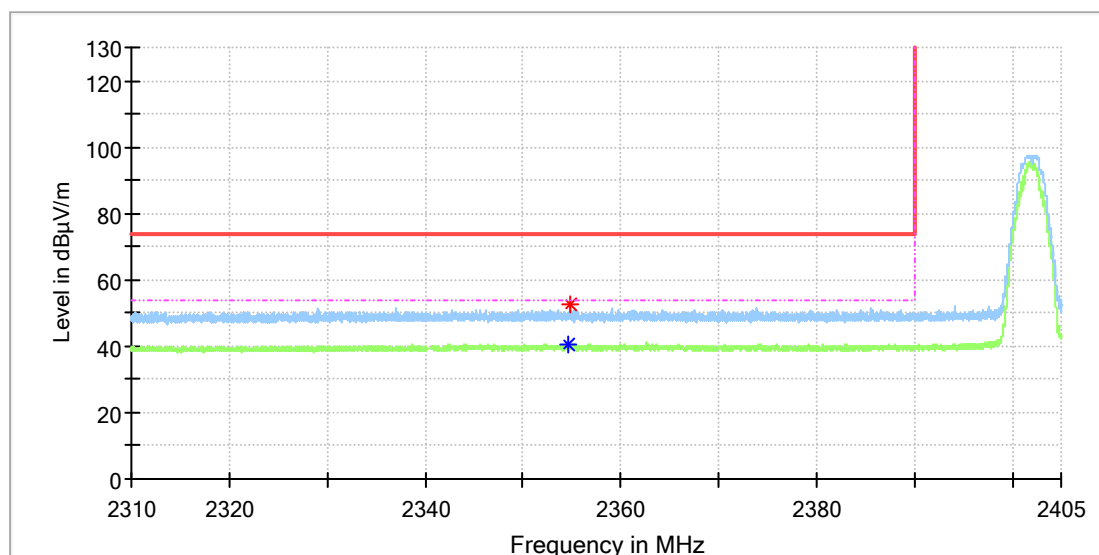
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: BLE 2M_Low channel
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2354.580147	---	40.68	54.00	13.33	150.0	H	279.0	8.5
2354.789706	52.31	---	74.00	21.69	150.0	H	335.0	8.5

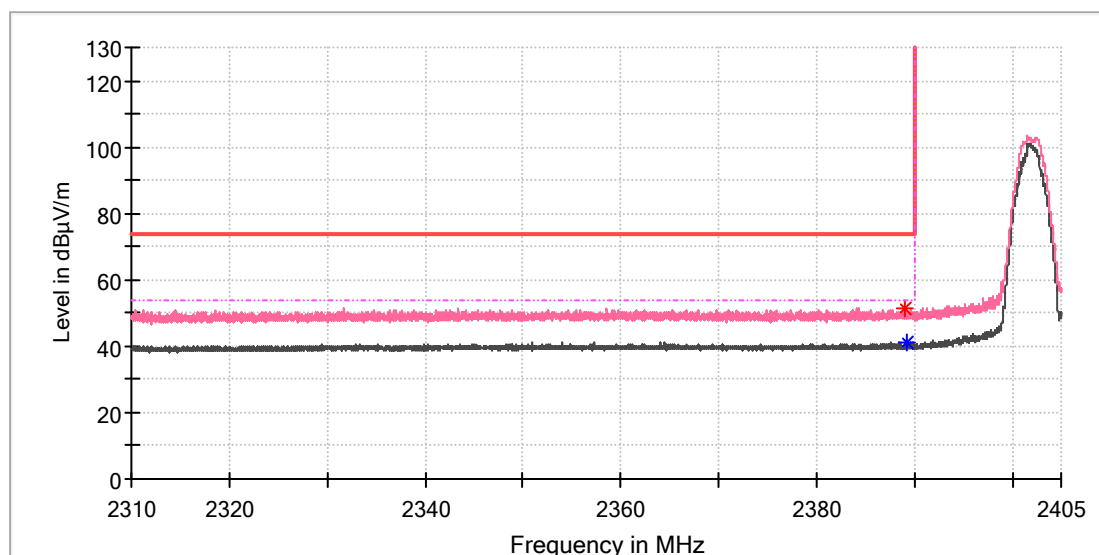
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: BLE 2M_Low channel
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.087500	51.27	---	74.00	22.73	150.0	V	110.0	8.5
2389.269118	---	41.12	54.00	12.88	150.0	V	1.0	8.5

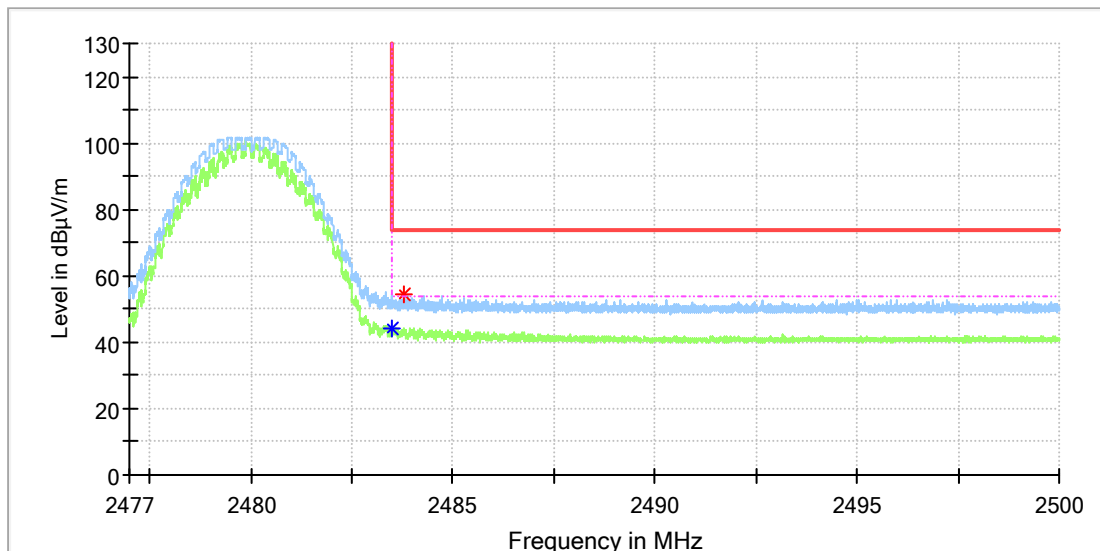
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	BLE 2M_High channel
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.507353	---	44.40	54.00	9.60	150.0	H	123.0	9.0
2483.812500	54.61	---	74.00	19.39	150.0	H	254.0	9.0

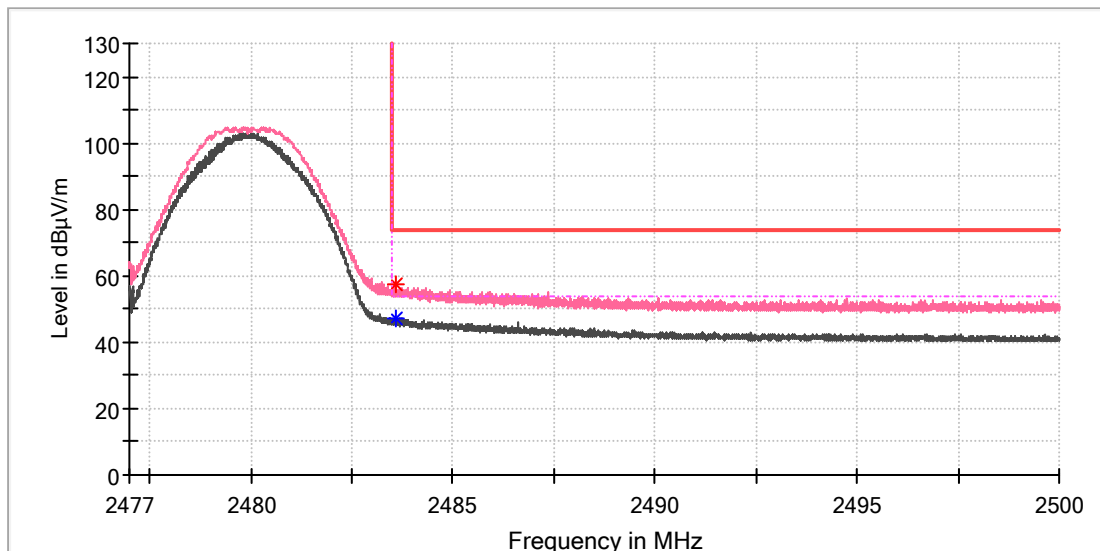
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: BLE 2M_High channel
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.591912	---	47.27	54.00	6.73	150.0	V	288.0	9.0
2483.595588	57.60	---	74.00	16.40	150.0	V	259.0	9.0

Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

---End of appendix---

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Appendix B.1: Test Results of Maximum conducted output power

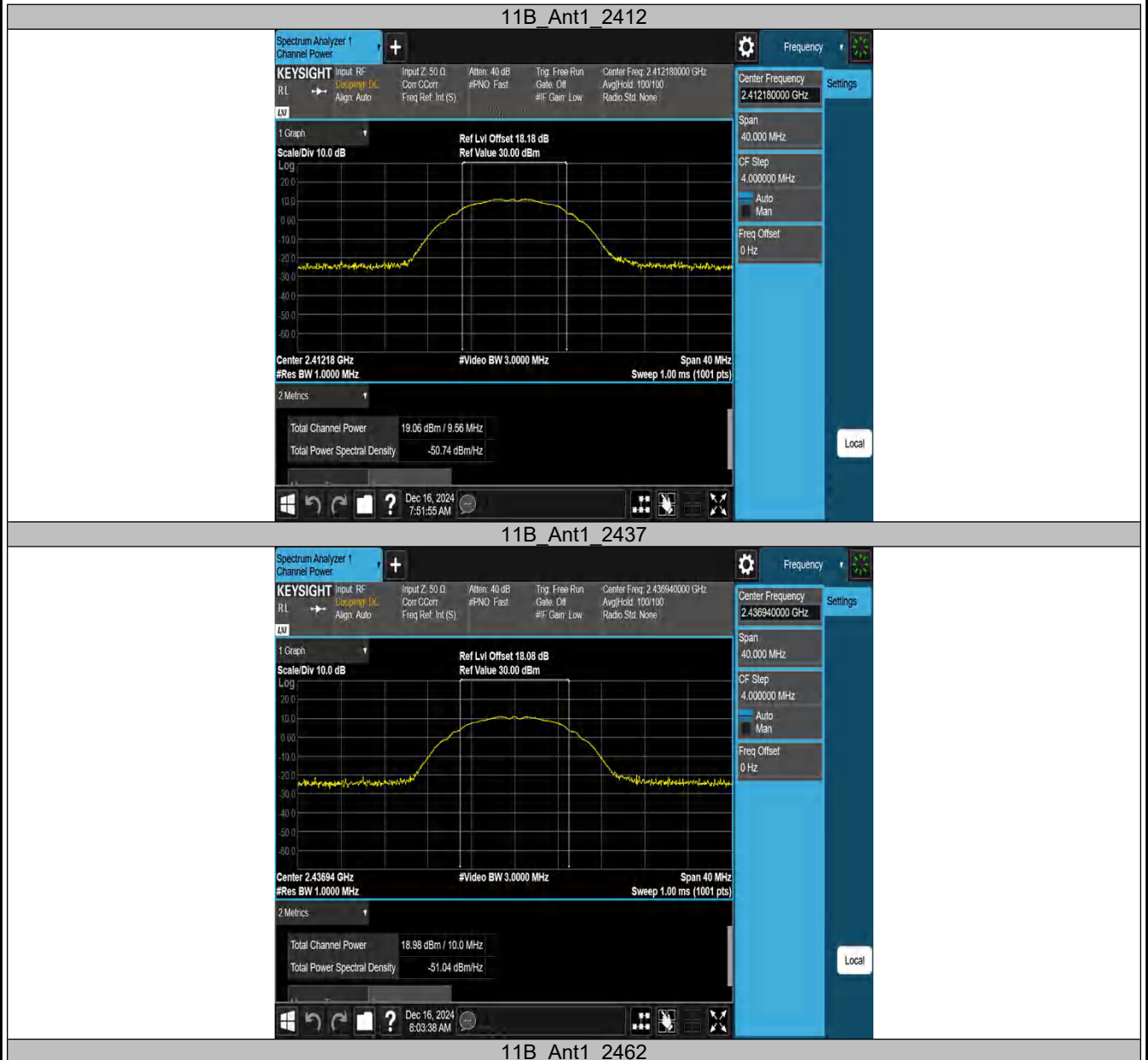
Test Result PK

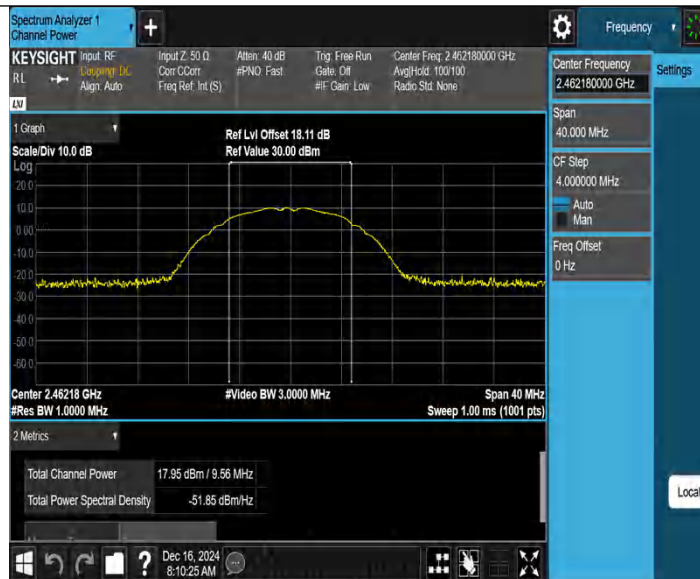
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	19.06	≤30.00	PASS
		2437	18.98	≤30.00	PASS
		2462	17.95	≤30.00	PASS
11G	Ant1	2412	22.38	≤30.00	PASS
		2437	22.09	≤30.00	PASS
		2462	21.39	≤30.00	PASS
11N20SISO	Ant1	2412	21.61	≤30.00	PASS
		2437	22.79	≤30.00	PASS
		2462	21.89	≤30.00	PASS
11N40SISO	Ant1	2422	22.25	≤30.00	PASS
		2437	21.91	≤30.00	PASS
		2452	21.55	≤30.00	PASS

Test Result AV

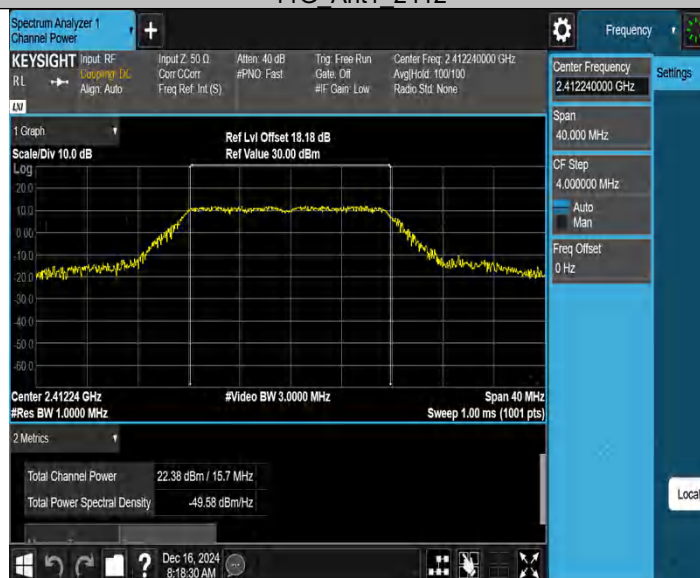
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	16.23	≤30.00	PASS
		2437	16.01	≤30.00	PASS
		2462	15.36	≤30.00	PASS
11G	Ant1	2412	15.44	≤30.00	PASS
		2437	15.26	≤30.00	PASS
		2462	14.47	≤30.00	PASS
11N20SISO	Ant1	2412	14.61	≤30.00	PASS
		2437	14.59	≤30.00	PASS
		2462	13.66	≤30.00	PASS
11N40SISO	Ant1	2422	14.16	≤30.00	PASS
		2437	13.99	≤30.00	PASS
		2452	13.77	≤30.00	PASS

Test Graphs PK

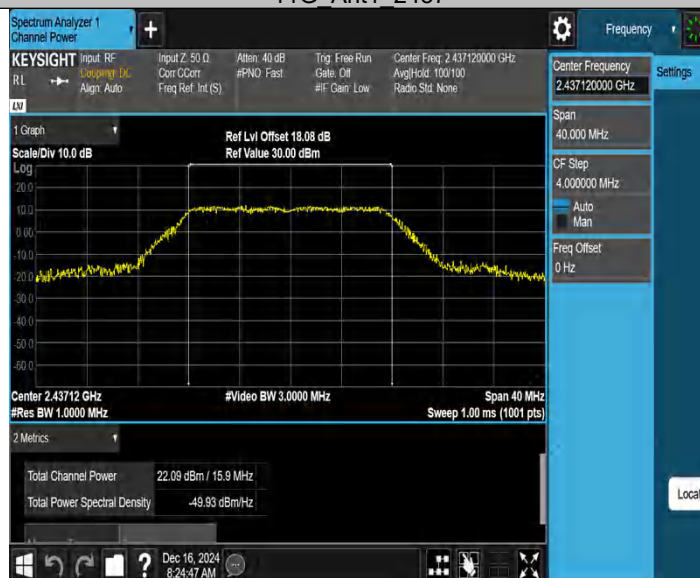




11G_Ant1_2412



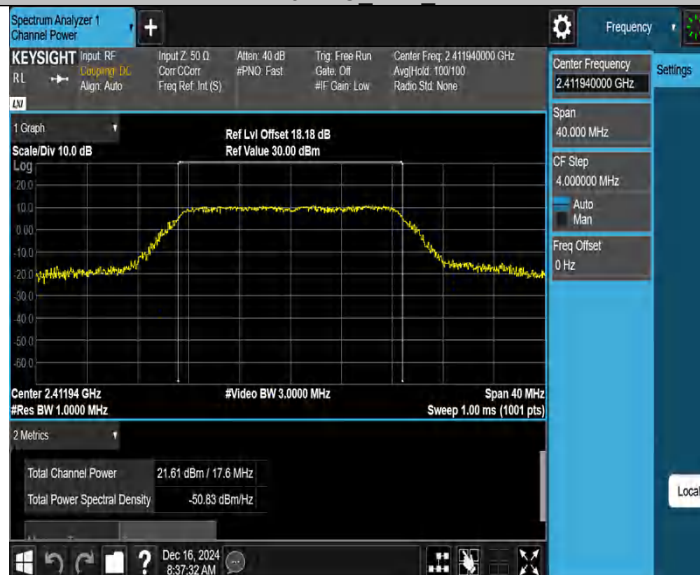
11G_Ant1_2437



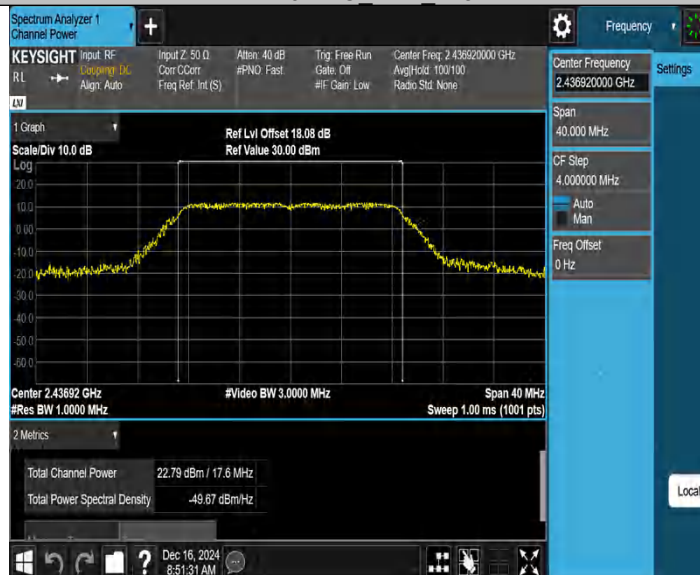
11G_Ant1_2462



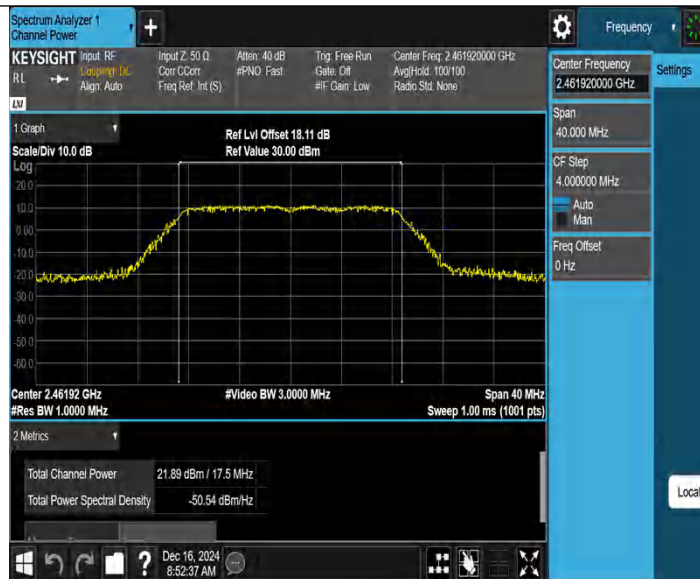
11N20SISO Ant1 2412



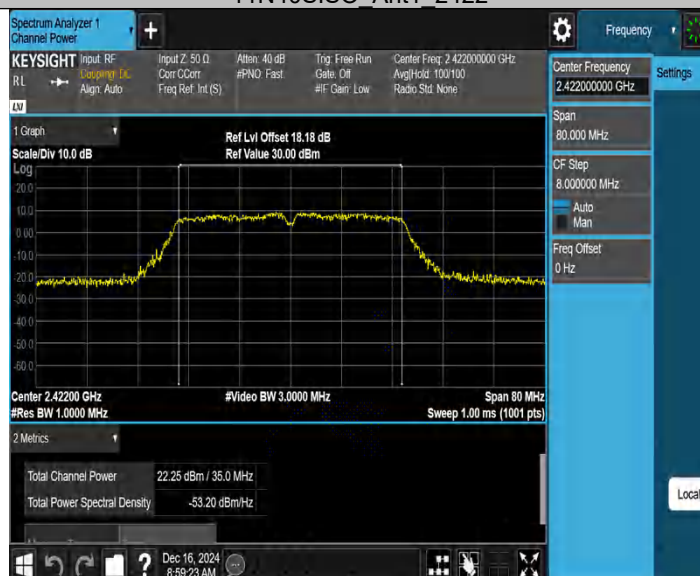
11N20SISO Ant1 2437



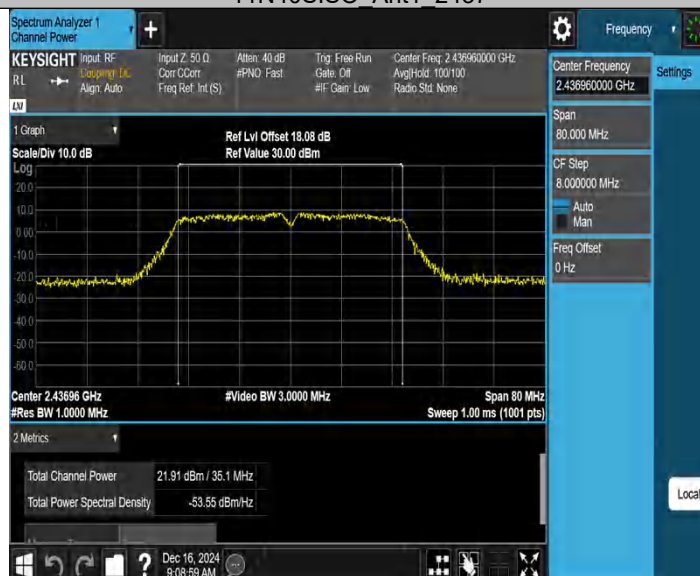
11N20SISO Ant1 2462



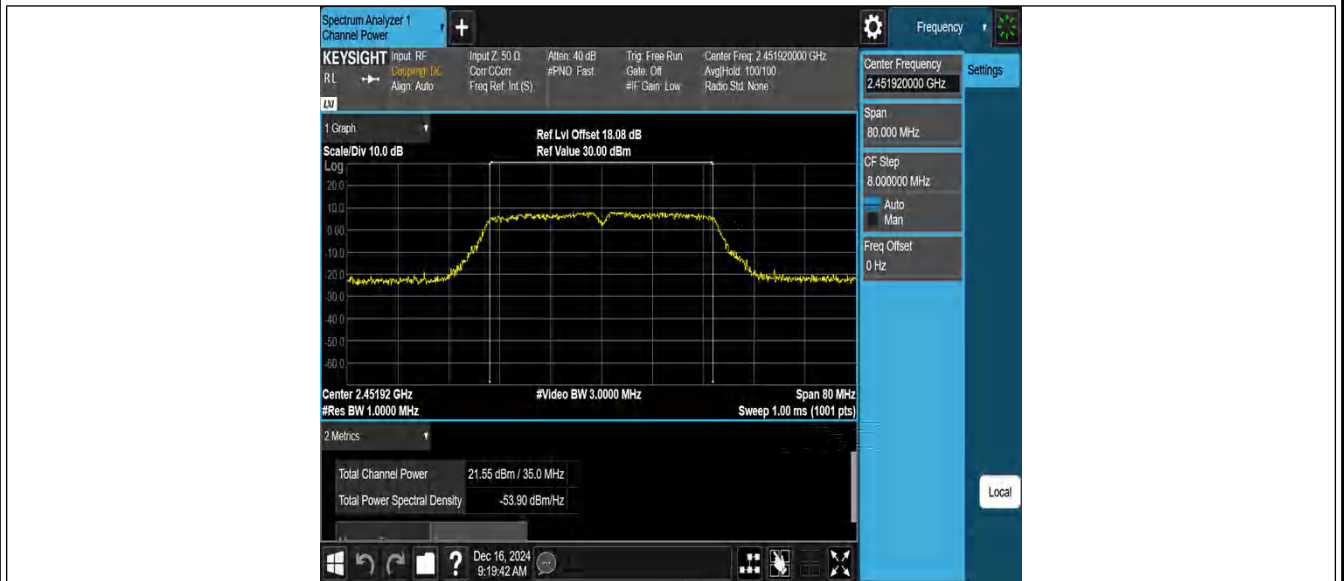
11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



Appendix B.2: Test Results of Conducted Power Spectral Density

Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-7.26	≤8.00	PASS
		2437	-7.28	≤8.00	PASS
		2462	-7.96	≤8.00	PASS
11G	Ant1	2412	-10.03	≤8.00	PASS
		2437	-10.33	≤8.00	PASS
		2462	-11.25	≤8.00	PASS
11N20SISO	Ant1	2412	-10.07	≤8.00	PASS
		2437	-10.86	≤8.00	PASS
		2462	-11.55	≤8.00	PASS
11N40SISO	Ant1	2422	-12.40	≤8.00	PASS
		2437	-12.86	≤8.00	PASS
		2452	-13.28	≤8.00	PASS

Test Graphs

11B_Ant1_2412



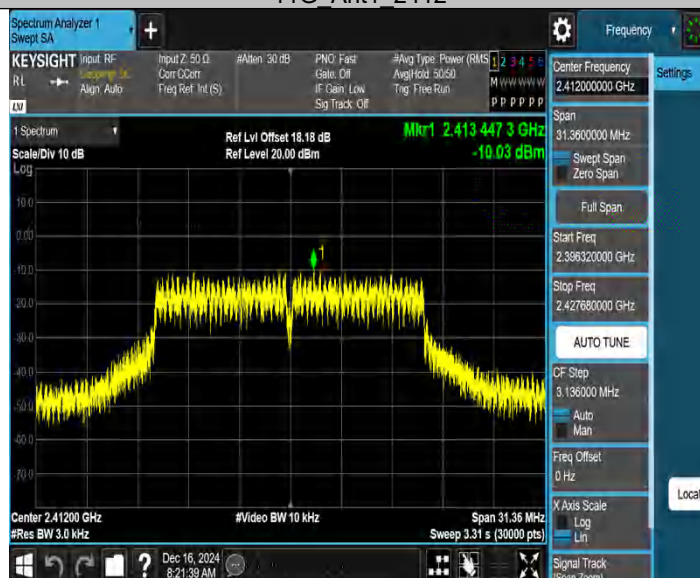
11B_Ant1_2437



11B_Ant1_2462



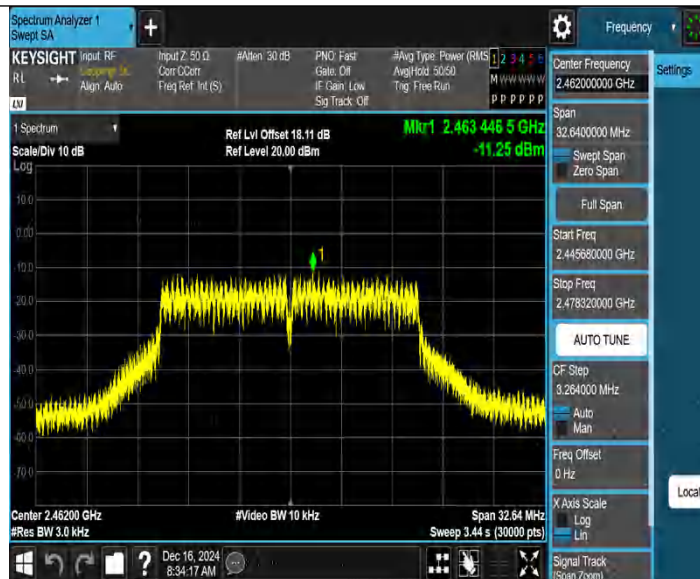
11G Ant1 2412



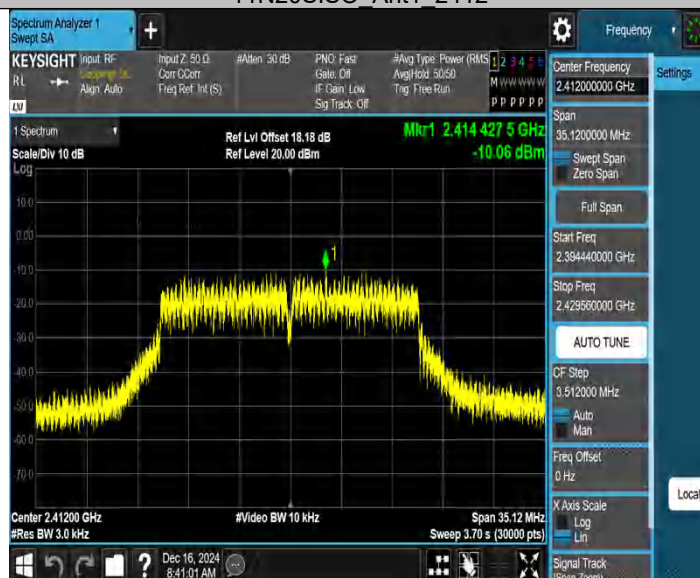
11G Ant1 2437



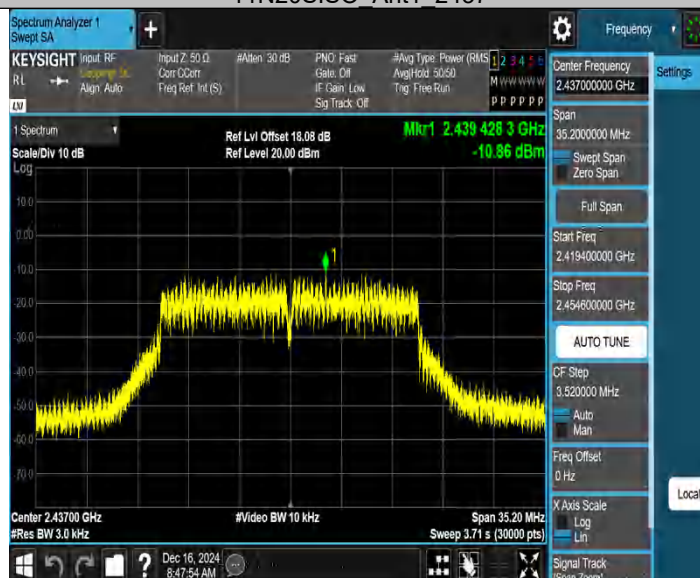
11G Ant1 2462



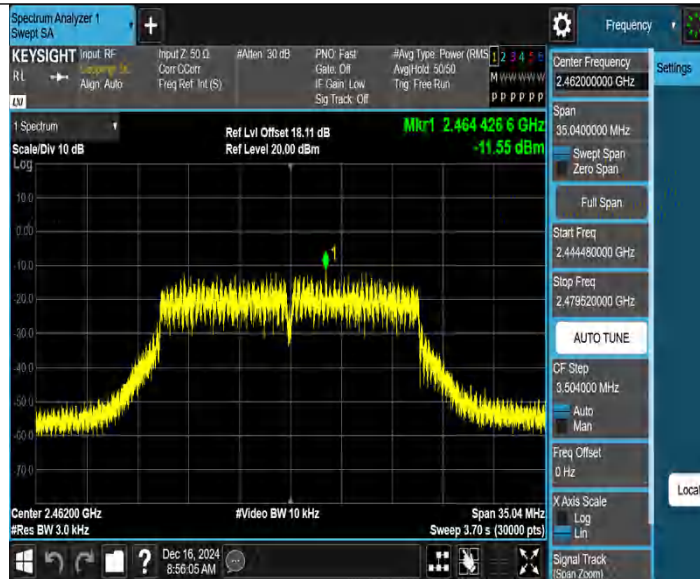
11N20SISO Ant1 2412



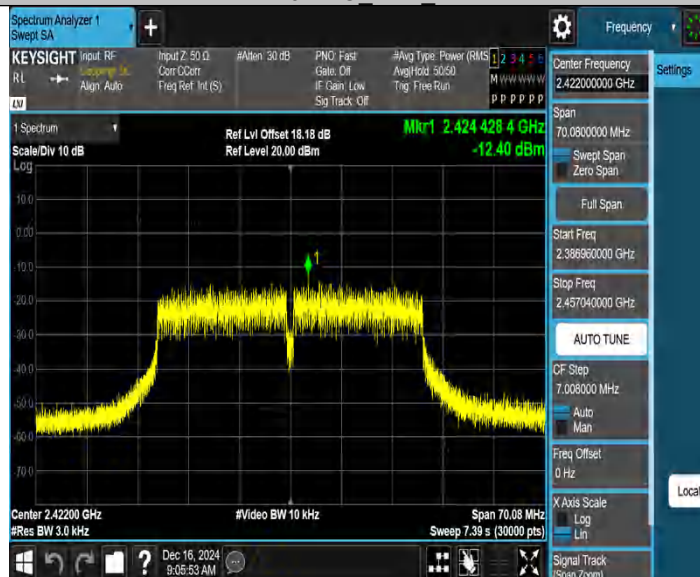
11N20SISO Ant1 2437



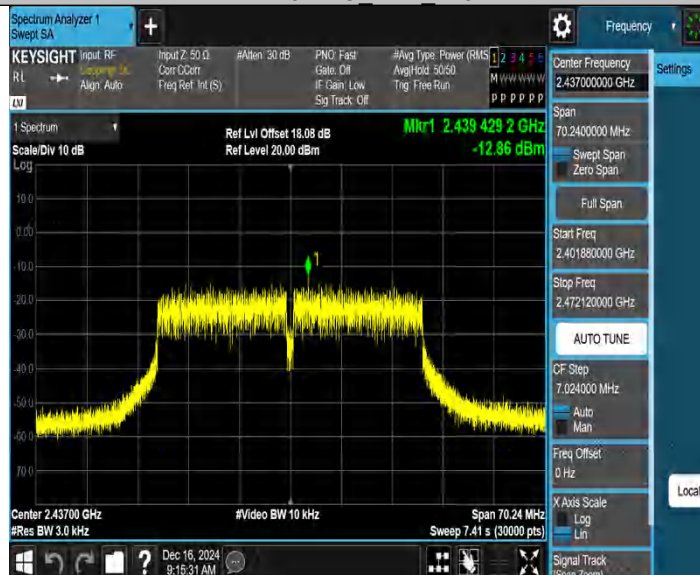
11N20SISO Ant1 2462



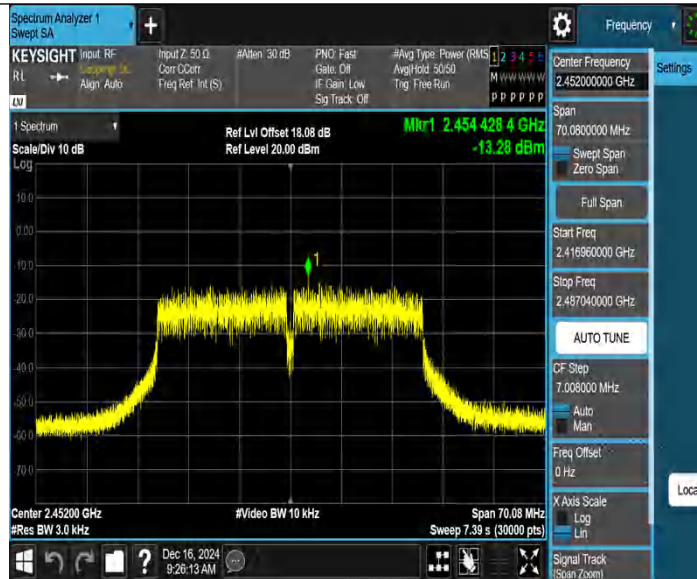
11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



Appendix B.3: Test Results of 6dB Bandwidth

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.560	2407.400	2416.960	0.5	PASS
		2437	10.040	2431.920	2441.960	0.5	PASS
		2462	9.560	2457.400	2466.960	0.5	PASS
11G	Ant1	2412	15.680	2404.400	2420.080	0.5	PASS
		2437	15.920	2429.160	2445.080	0.5	PASS
		2462	16.320	2453.760	2470.080	0.5	PASS
11N20SISO	Ant1	2412	17.560	2403.160	2420.720	0.5	PASS
		2437	17.600	2428.120	2445.720	0.5	PASS
		2462	17.520	2453.160	2470.680	0.5	PASS
11N40SISO	Ant1	2422	35.040	2404.480	2439.520	0.5	PASS
		2437	35.120	2419.400	2454.520	0.5	PASS
		2452	35.040	2434.400	2469.440	0.5	PASS

Test Graphs

11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



11G_Ant1_2412



11G_Ant1_2437



11G_Ant1_2462







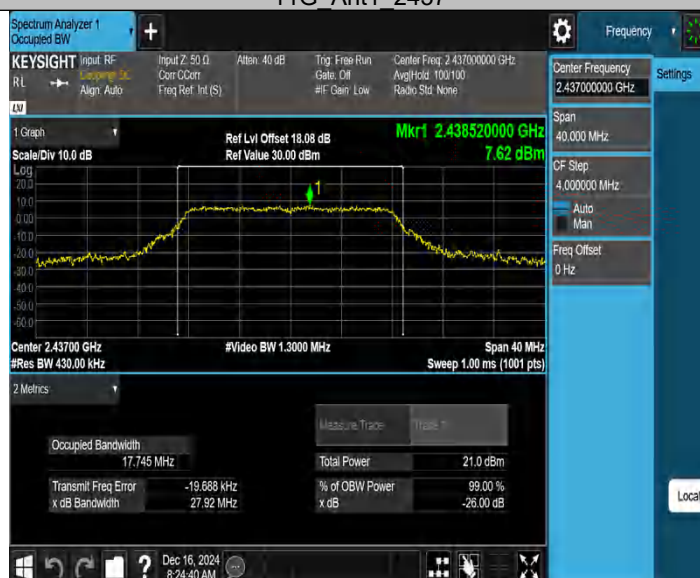
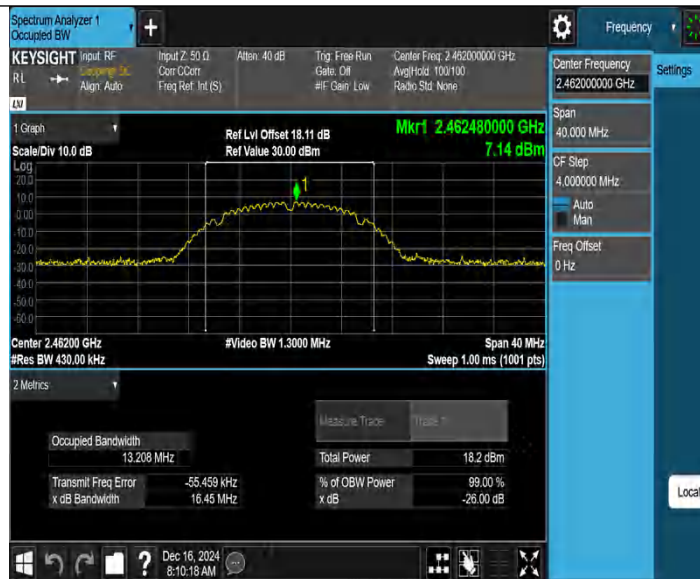
Appendix B.4: Test Results of 99% Bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	13.226	2405.3542	2418.5802	---	---
		2437	13.205	2430.3320	2443.5370	---	---
		2462	13.208	2455.3405	2468.5485	---	---
11G	Ant1	2412	18.013	2403.0305	2421.0435	---	---
		2437	17.745	2428.1078	2445.8528	---	---
		2462	17.730	2453.1232	2470.8532	---	---
11N20SISO	Ant1	2412	18.673	2402.6774	2421.3504	---	---
		2437	18.697	2427.5443	2446.2413	---	---
		2462	18.642	2452.6236	2471.2656	---	---
11N40SISO	Ant1	2422	37.034	2403.4920	2440.5260	---	---
		2437	37.088	2418.3844	2455.4724	---	---
		2452	37.168	2433.2853	2470.4533	---	---

Test Graphs



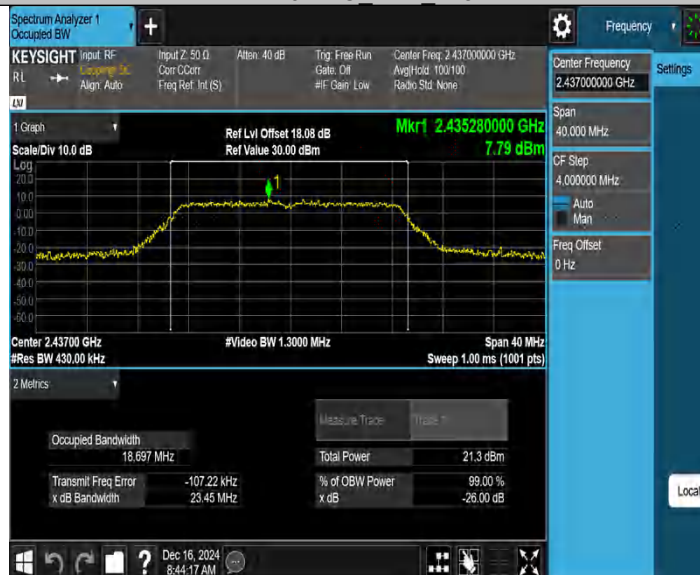




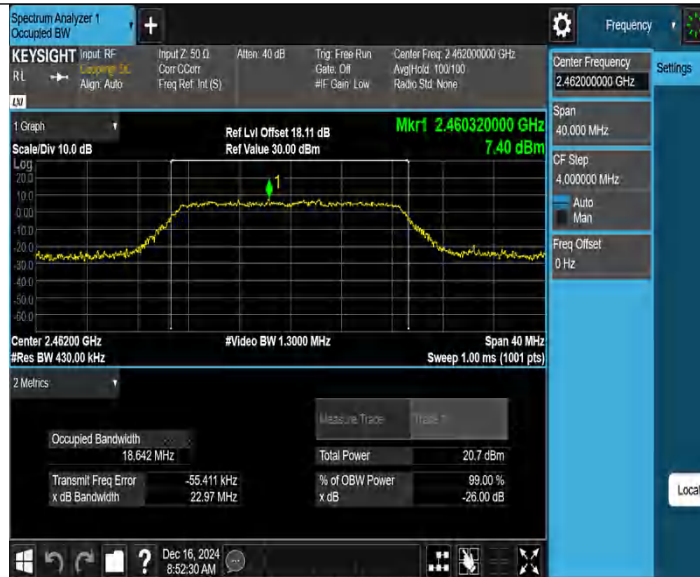
11N20SISO Ant1 2412



11N20SISO Ant1 2437



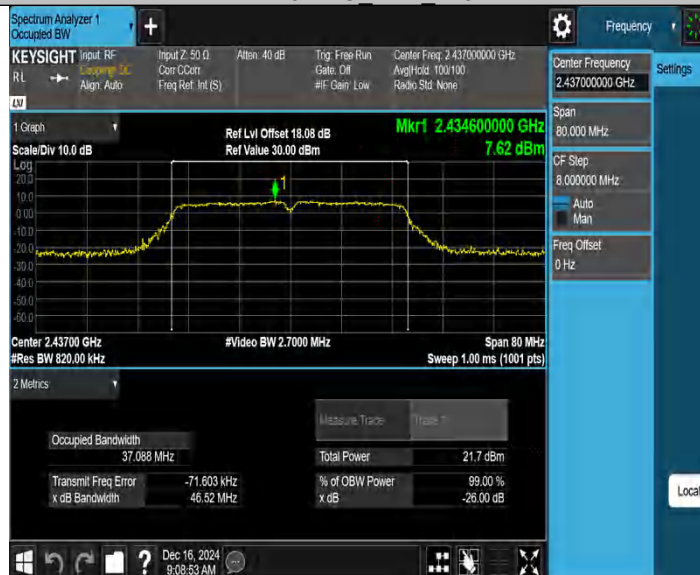
11N20SISO Ant1 2462



11N40SISO Ant1 2422



11N40SISO Ant1 2437



11N40SISO Ant1 2452



Appendix B.5: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

Band Edge

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	6.56	-37.8	≤-13.44	PASS
		High	2462	6.82	-40.02	≤-13.18	PASS
11G	Ant1	Low	2412	4.57	-24.22	≤-15.43	PASS
		High	2462	3.90	-38.24	≤-16.1	PASS
11N20SISO	Ant1	Low	2412	4.41	-27.91	≤-15.6	PASS
		High	2462	2.00	-38.96	≤-18	PASS
11N40SISO	Ant1	Low	2422	0.15	-30.42	≤-19.85	PASS
		High	2452	-0.14	-35.19	≤-20.14	PASS

Test Graphs







11N40SISO Ant1 Low 2422



11N40SISO Ant1 High 2452

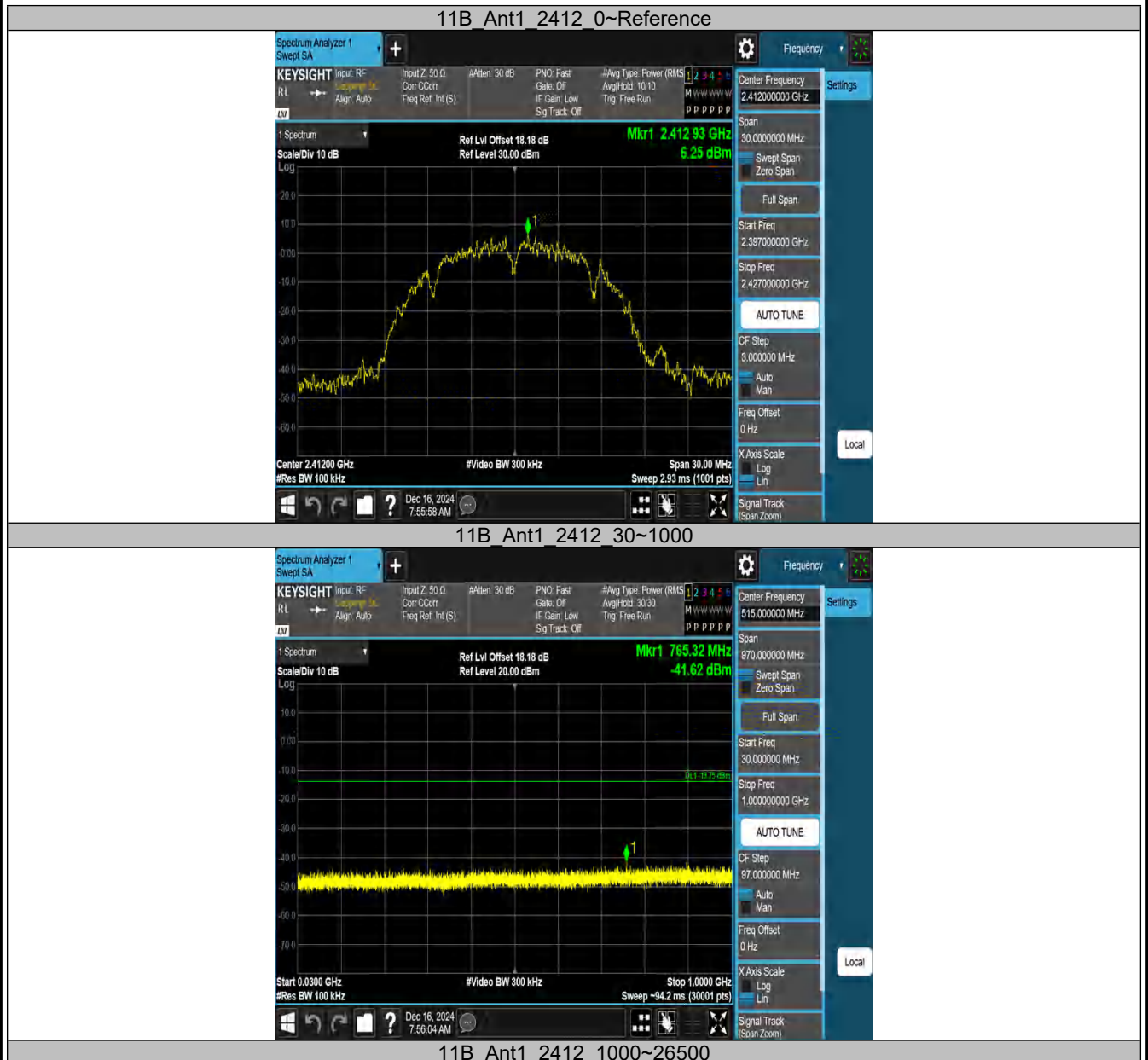


Conducted Spurious Emission

Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.25	6.25	---	PASS
			30~1000	6.25	-41.62	≤-13.75	PASS
			1000~26500	6.25	-33.24	≤-13.75	PASS
		2437	Reference	6.02	6.02	---	PASS
			30~1000	6.02	-41.47	≤-13.98	PASS
			1000~26500	6.02	-31.66	≤-13.98	PASS
		2462	Reference	5.95	5.95	---	PASS
			30~1000	5.95	-42.38	≤-14.05	PASS
			1000~26500	5.95	-32.62	≤-14.05	PASS
11G	Ant1	2412	Reference	4.04	4.04	---	PASS
			30~1000	4.04	-42.01	≤-15.96	PASS
			1000~26500	4.04	-32.9	≤-15.96	PASS
		2437	Reference	4.30	4.30	---	PASS
			30~1000	4.30	-41.7	≤-15.7	PASS
			1000~26500	4.30	-32.75	≤-15.7	PASS
		2462	Reference	-0.13	-0.13	---	PASS
			30~1000	-0.13	-41.66	≤-20.13	PASS
			1000~26500	-0.13	-32.42	≤-20.13	PASS
11N20SISO	Ant1	2412	Reference	2.68	2.68	---	PASS
			30~1000	2.68	-41.88	≤-17.32	PASS
			1000~26500	2.68	-32.49	≤-17.32	PASS
		2437	Reference	2.17	2.17	---	PASS
			30~1000	2.17	-42.47	≤-17.83	PASS
			1000~26500	2.17	-33.39	≤-17.83	PASS
		2462	Reference	1.88	1.88	---	PASS
			30~1000	1.88	-42.4	≤-18.12	PASS
			1000~26500	1.88	-32.73	≤-18.12	PASS
11N40SISO	Ant1	2422	Reference	-0.71	-0.71	---	PASS
			30~1000	-0.71	-42.15	≤-20.71	PASS
			1000~26500	-0.71	-33.35	≤-20.71	PASS
		2437	Reference	-0.67	-0.67	---	PASS
			30~1000	-0.67	-41.05	≤-20.67	PASS
			1000~26500	-0.67	-32.56	≤-20.67	PASS
		2452	Reference	-1.82	-1.82	---	PASS
			30~1000	-1.82	-42.25	≤-21.82	PASS
			1000~26500	-1.82	-33.37	≤-21.82	PASS

Test Graphs





11B_Ant1_2437_0~Reference



11B_Ant1_2437_30~1000



11B_Ant1_2437_1000~26500



11B_Ant1_2462_0~Reference



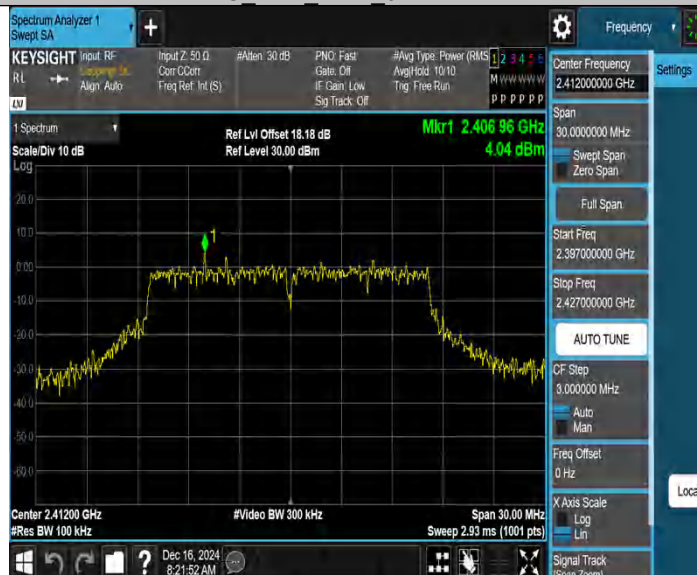
11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference



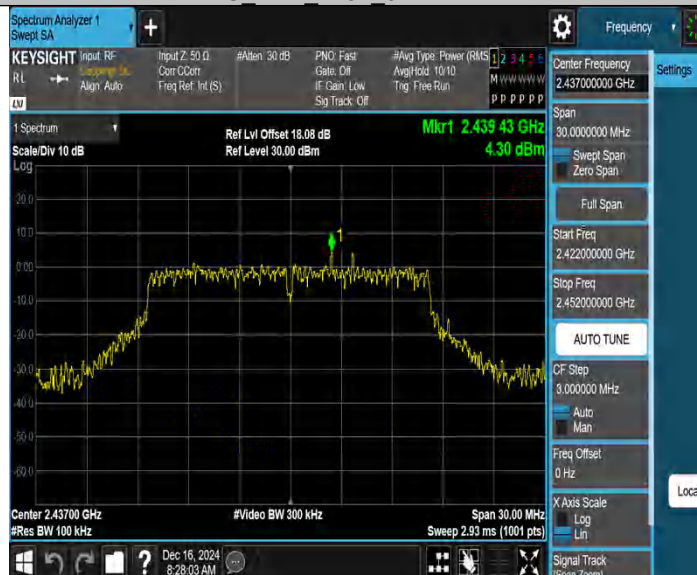
11G_Ant1_2412_30~1000



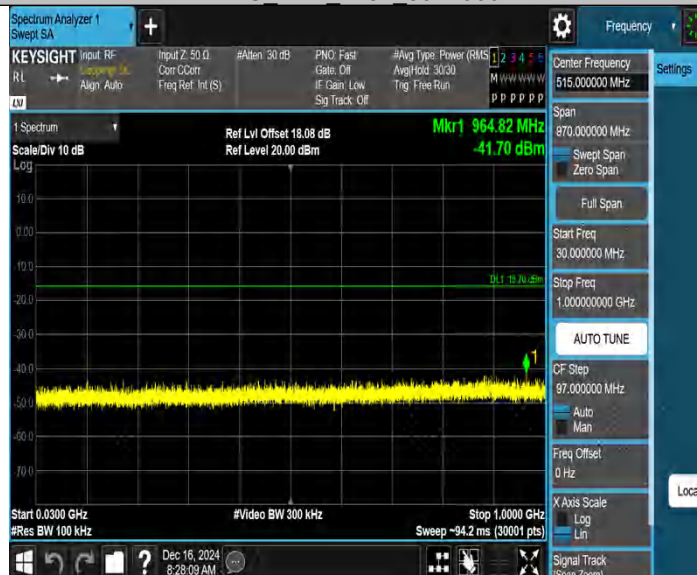
11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference



11G_Ant1_2437_30~1000



11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference



11G_Ant1_2462_30~1000

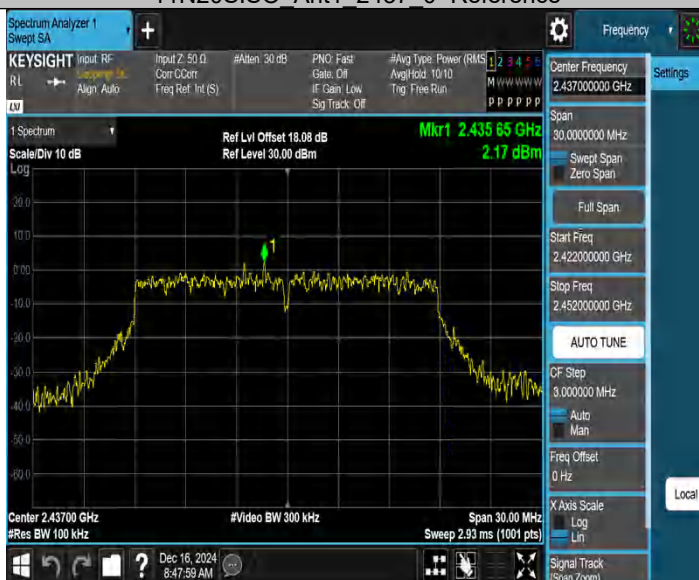


11G_Ant1_2462_1000~26500





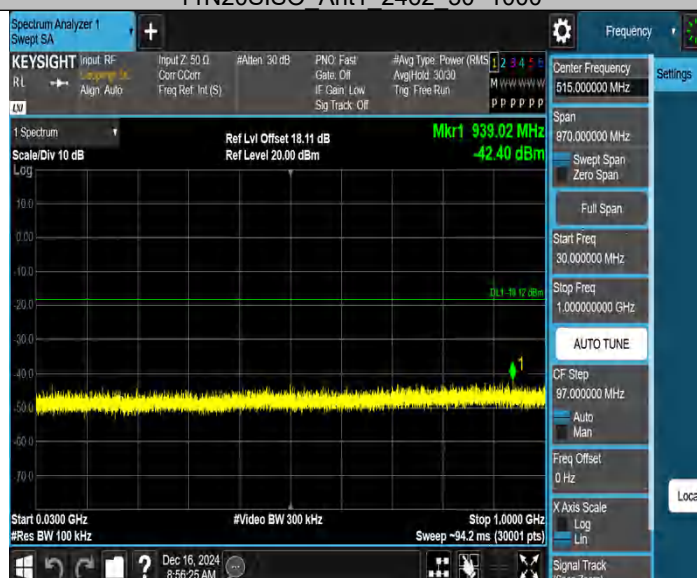
11N20SISO_Ant1_2437_0~Reference

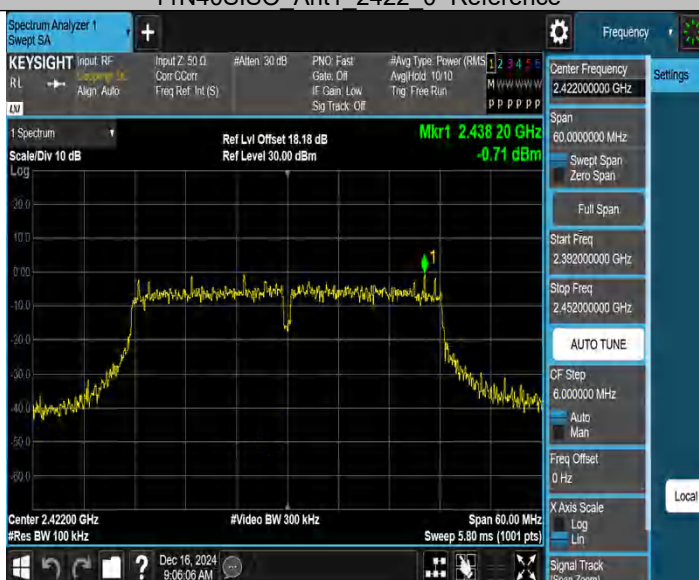


11N20SISO_Ant1_2437_30~1000



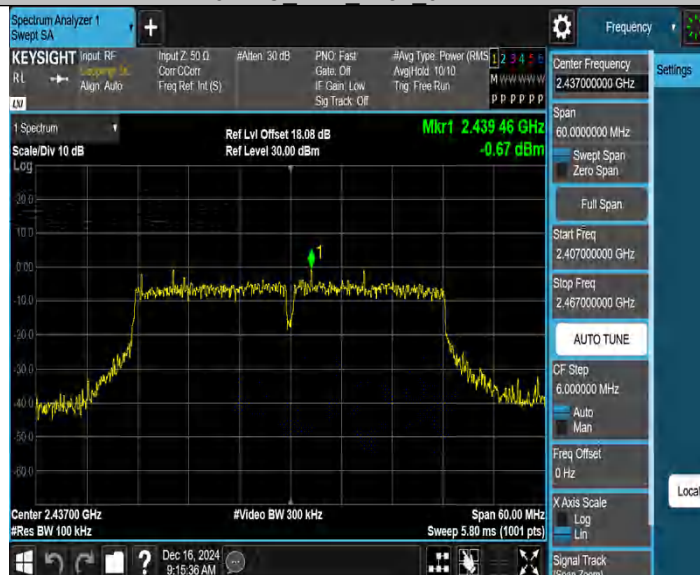
11N20SISO_Ant1_2437_1000~26500







11N40SISO_Ant1_2437_0~Reference



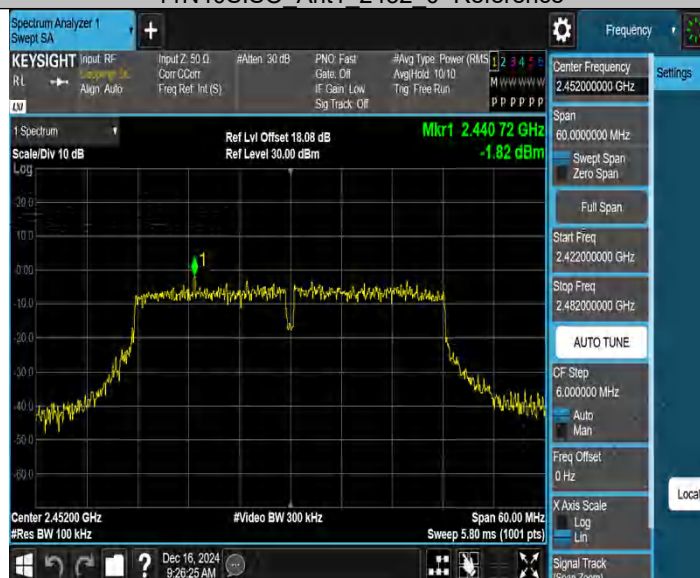
11N40SISO_Ant1_2437_30~1000



11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_0~Reference



11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500



Appendix B.6: Test Results of Radiated Spurious Emissions

Note:

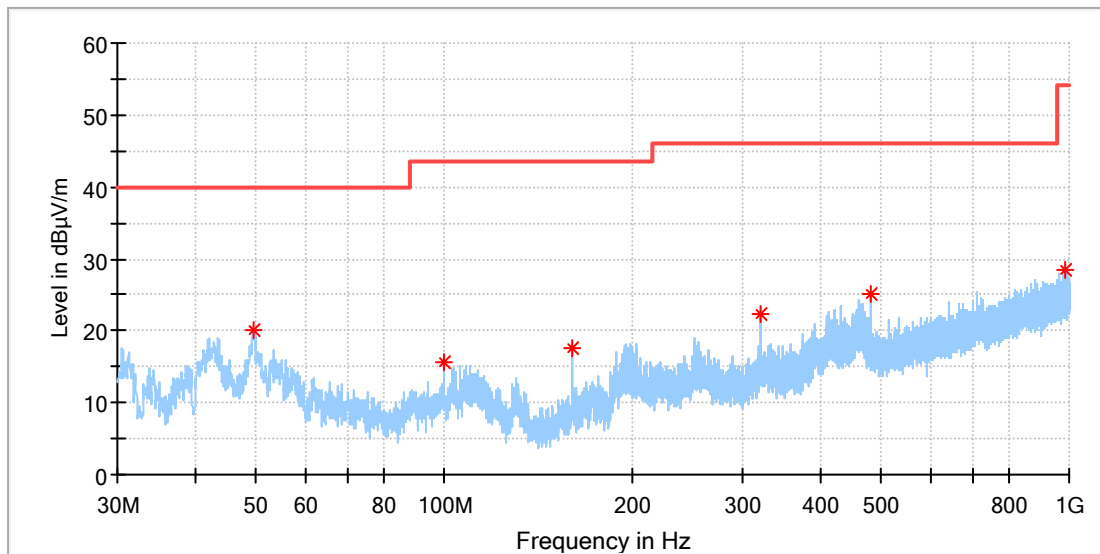
- 1) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30 MHz - 1GHz(Worst case)

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	WIFI 2.4G_11b_Ch6
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.400000	20.03	40.00	19.97	100.0	H	266.0	-18.4
99.989231	15.61	43.50	27.89	100.0	H	243.0	-19.1
160.017308	17.46	43.50	26.04	100.0	H	250.0	-21.8
319.992692	22.42	46.00	23.58	100.0	H	266.0	-15.7
480.005385	25.15	46.00	20.85	100.0	H	0.0	-12.1
986.867692	28.42	54.00	25.58	100.0	H	322.0	-3.7

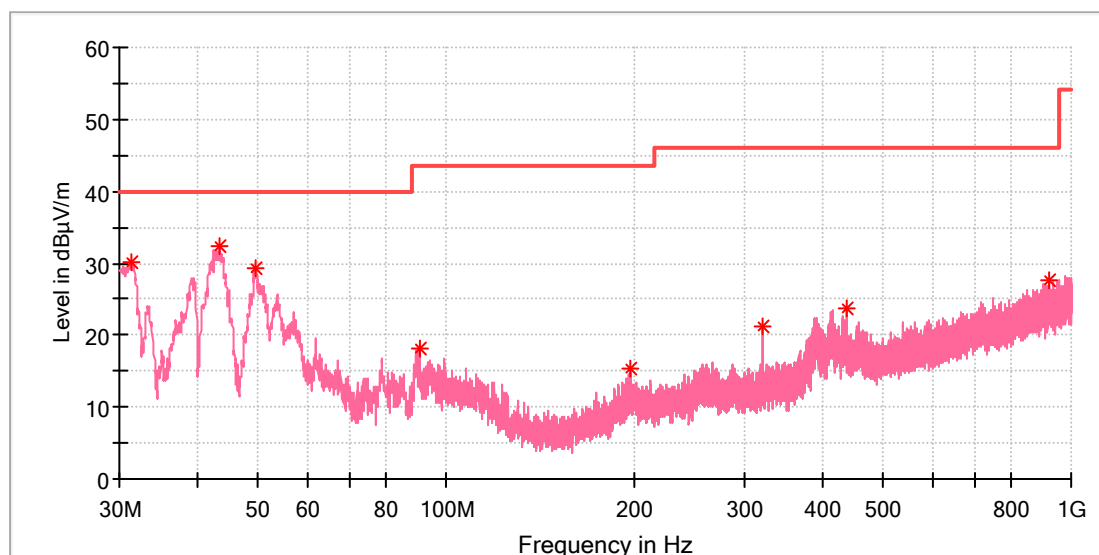
Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	WIFI 2.4G_11b_Ch6
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.268462	30.15	40.00	9.85	100.0	V	163.0	-22.8
43.468077	32.42	40.00	7.58	100.0	V	105.0	-19.3
49.698462	29.26	40.00	10.74	100.0	V	105.0	-18.4
90.475769	18.13	43.50	25.37	100.0	V	179.0	-21.0
197.287692	15.39	43.50	28.11	100.0	V	113.0	-19.2
319.992692	21.22	46.00	24.78	100.0	V	339.0	-15.7
436.504615	23.67	46.00	22.33	100.0	V	264.0	-13.0
921.094231	27.70	46.00	18.30	100.0	V	89.0	-4.6

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

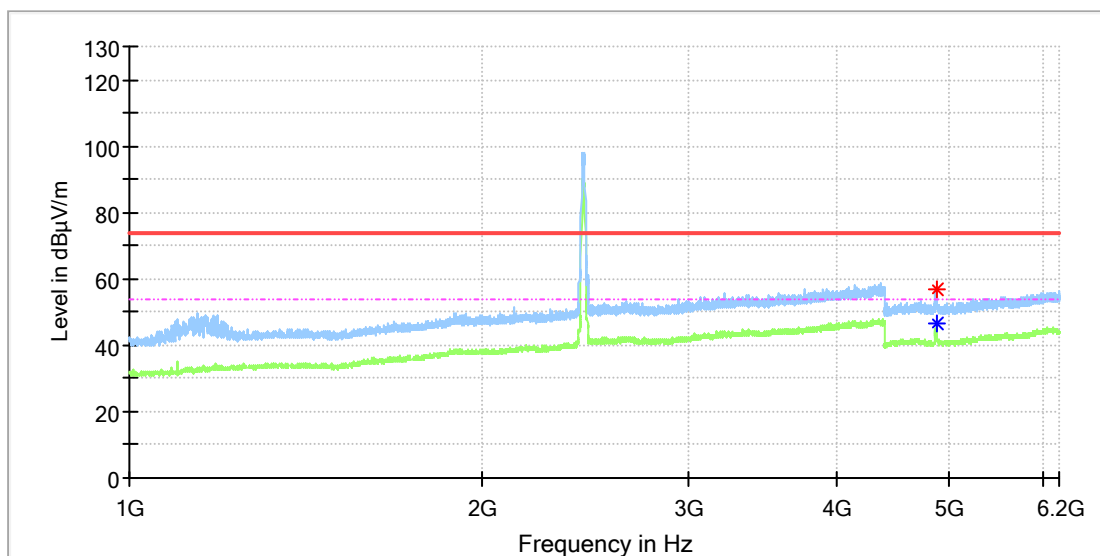
1GHz - 18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental. The test were performed on 802.11b/g/n20/n40 mode with Lowest, middle, highest channels, here just show the worst case result.

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	WIFI 2.4G_11n20_Ch6
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4873.500000	---	46.34	54.00	7.66	150.0	H	197.0	13.3
4879.000000	56.67	---	74.00	17.33	150.0	H	180.0	13.3

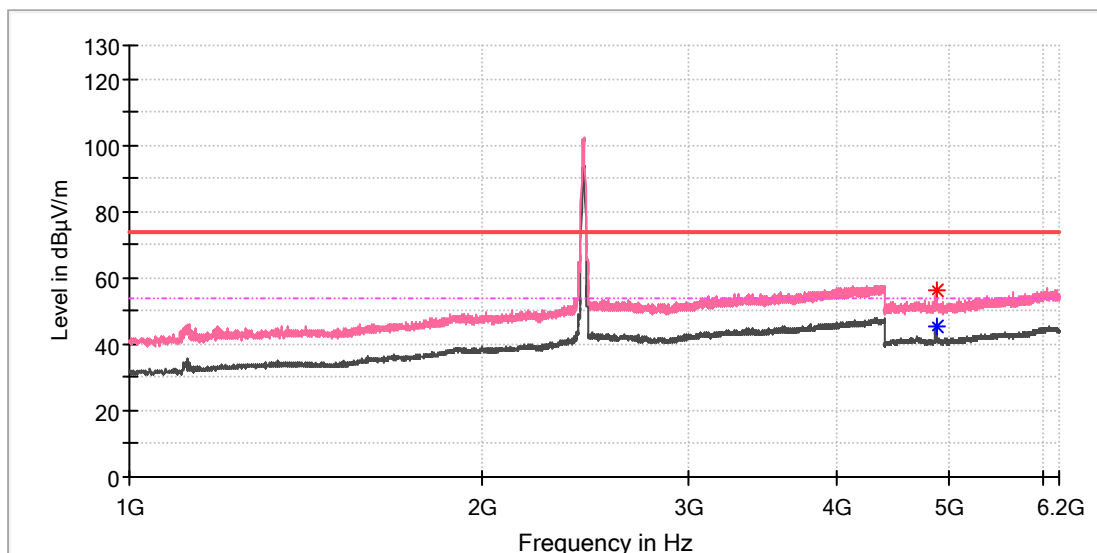
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: WIFI 2.4G_11n20_Ch6
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4875.500000	---	45.47	54.00	8.53	150.0	V	217.0	13.3
4877.000000	55.96	---	74.00	18.04	150.0	V	181.0	13.3

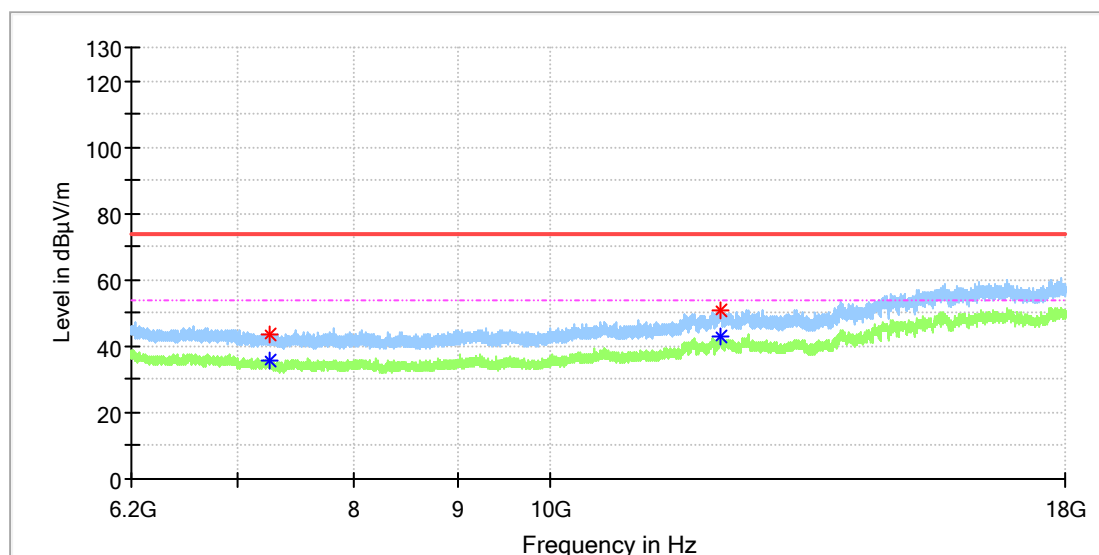
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: WIFI 2.4G_11n20_Ch6
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7256.100000	---	35.75	54.00	18.25	150.0	H	0.0	8.5
7266.425000	43.71	---	74.00	30.29	150.0	H	323.0	8.5
12140.808333	50.79	---	74.00	23.21	150.0	H	257.0	16.5
12156.050000	---	42.88	54.00	11.12	150.0	H	235.0	16.4

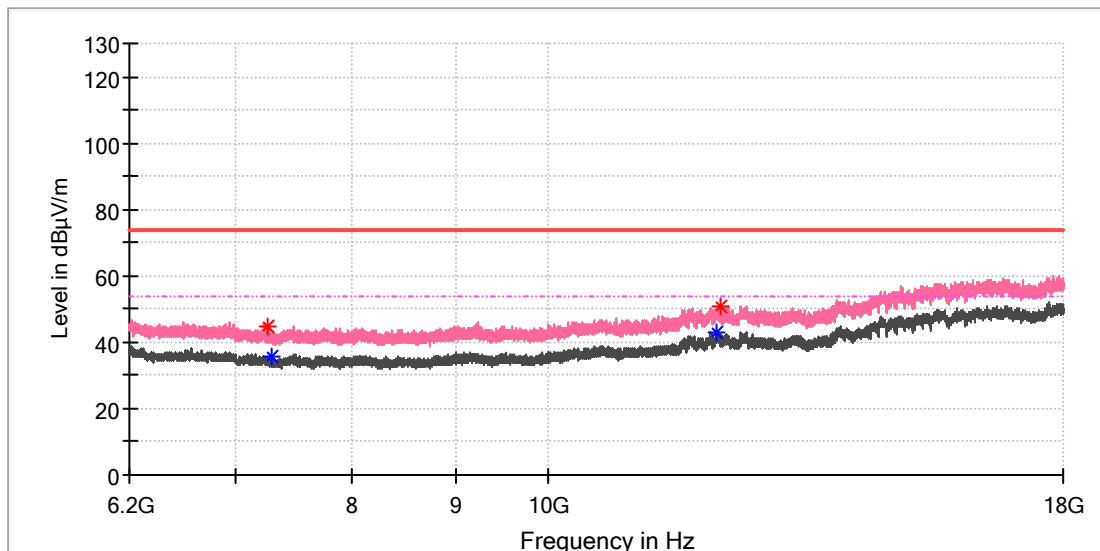
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n20_Ch6
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7259.050000	44.64	---	74.00	29.36	150.0	V	3.0	8.5
7291.991667	---	35.51	54.00	18.49	150.0	V	22.0	8.3
12121.141667	---	42.83	54.00	11.17	150.0	V	12.0	16.0
12165.391667	50.98	---	74.00	23.02	150.0	V	92.0	15.9

Final Result

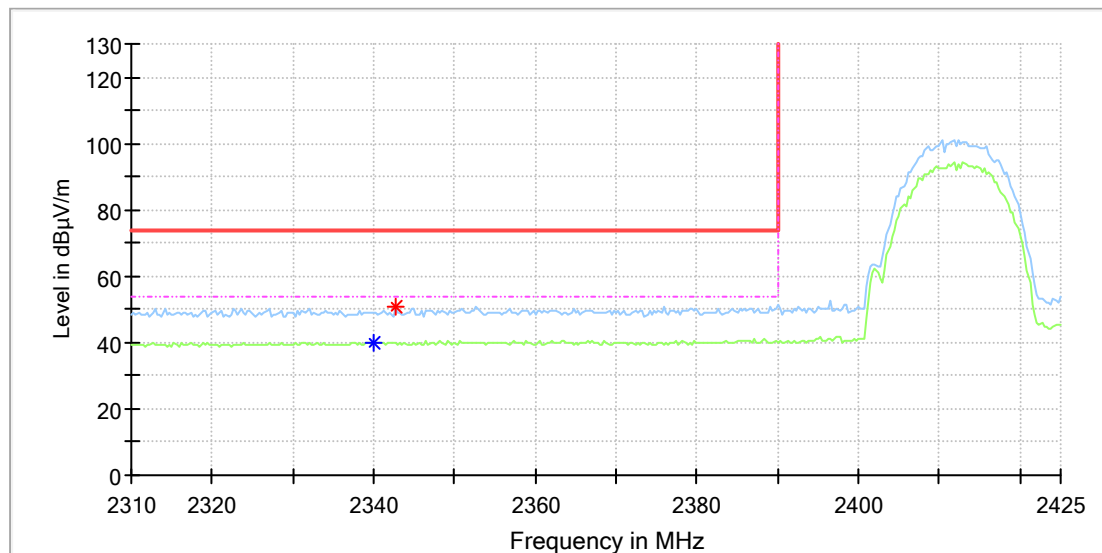
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---	---	---	---

Appendix B.7: Test Results of Radiated Emissions in Restricted Bands

Test Report

EUT Information

EUT Name:	LED Smart Bulb
Model:	14aSA-C500ST-E1T_NA_2P
Test Mode:	WIFI 2.4G_11b_Ch1
Order No/Sample No:	168516453/A003877474-003
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:53%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2340.000000	---	40.07	54.00	13.93	150.0	H	344.0	8.4
2342.647059	50.54	---	74.00	23.46	150.0	H	236.0	8.4

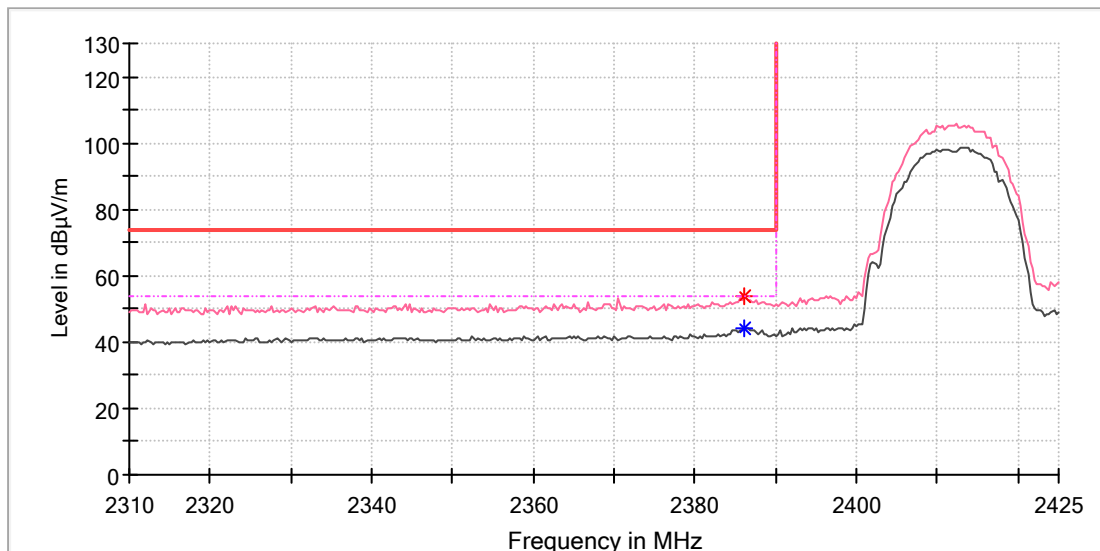
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11b_Ch1
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2386.176471	54.01	---	74.00	19.99	150.0	V	306.0	8.5
2386.176471	---	44.41	54.00	9.59	150.0	V	306.0	8.5

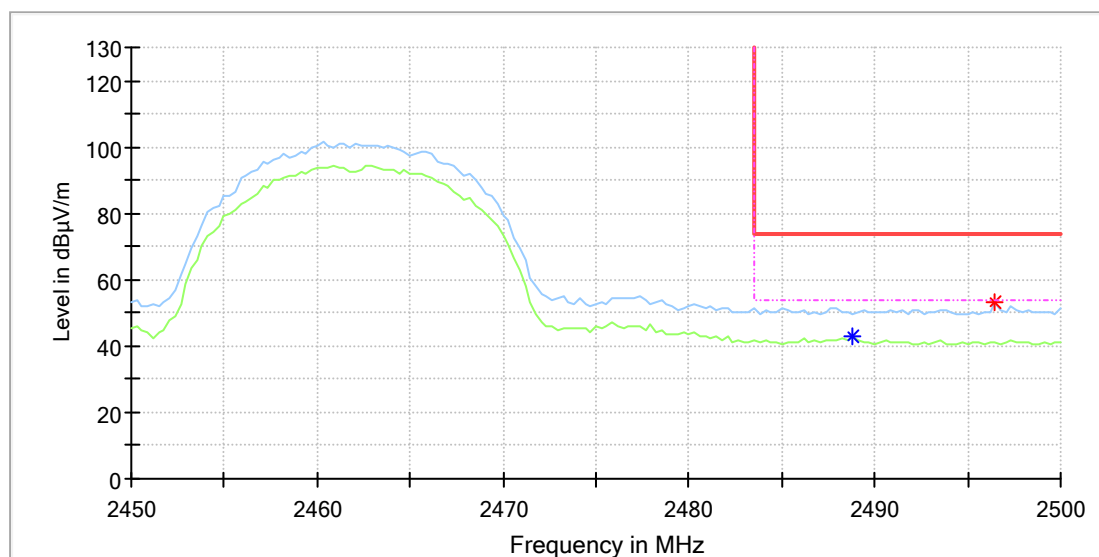
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: WIFI 2.4G_11b_Ch11
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2488.823529	---	42.77	54.00	11.23	150.0	H	352.0	9.0
2496.470588	52.95	---	74.00	21.05	150.0	H	347.0	9.0

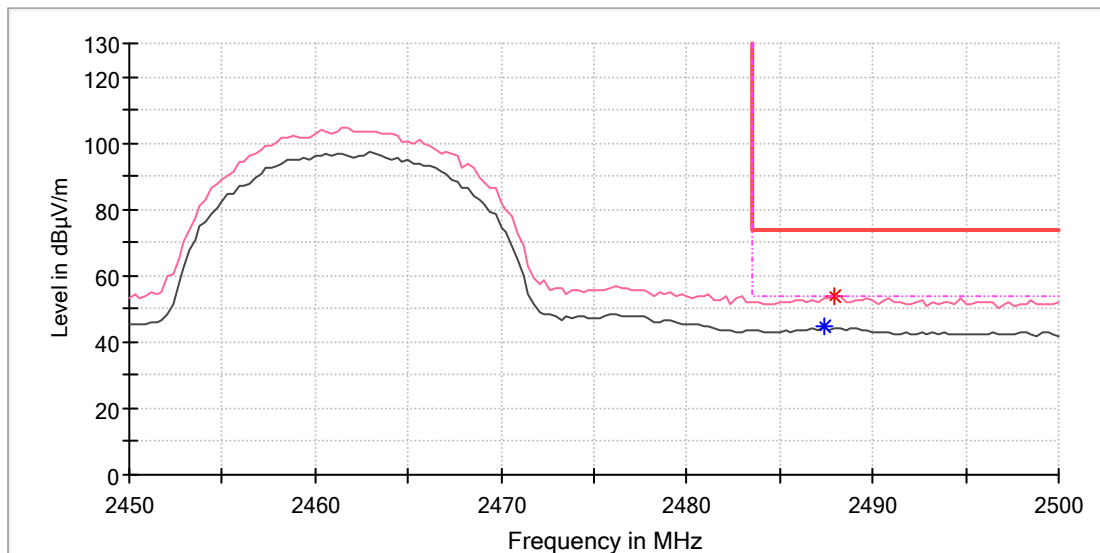
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11b_Ch11
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2487.352941	---	44.84	54.00	9.16	150.0	V	292.0	9.0
2487.941177	53.75	---	74.00	20.25	150.0	V	94.0	9.0

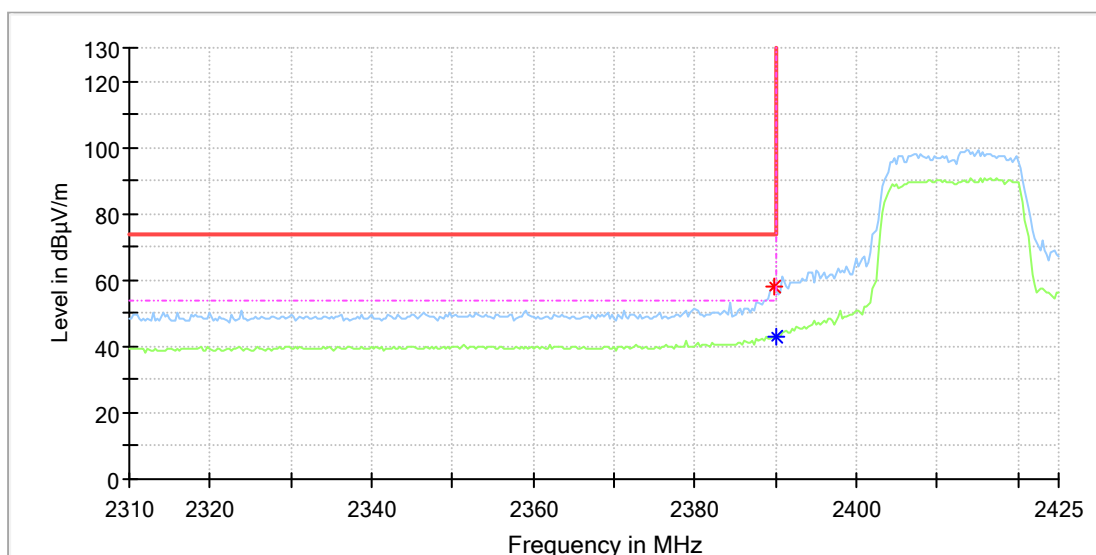
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11g_Ch1
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.705882	57.93	---	74.00	16.07	150.0	H	259.0	8.5
2390.000000	---	43.05	54.00	10.95	150.0	H	216.0	8.5

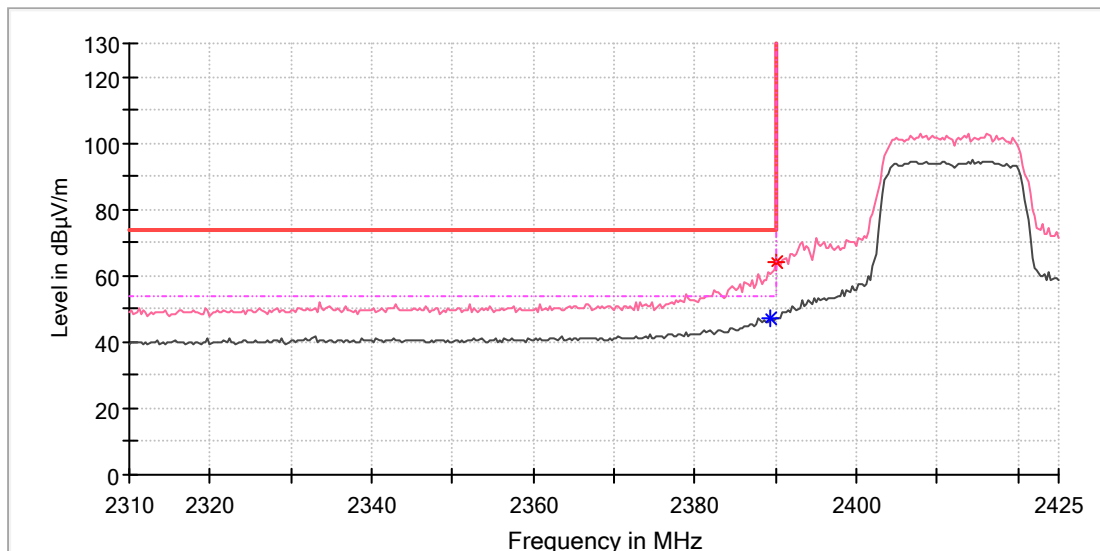
Final Result

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11g_Ch1
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.411765	---	47.44	54.00	6.56	150.0	V	312.0	8.5
2390.000000	64.18	---	74.00	9.82	150.0	V	307.0	8.5

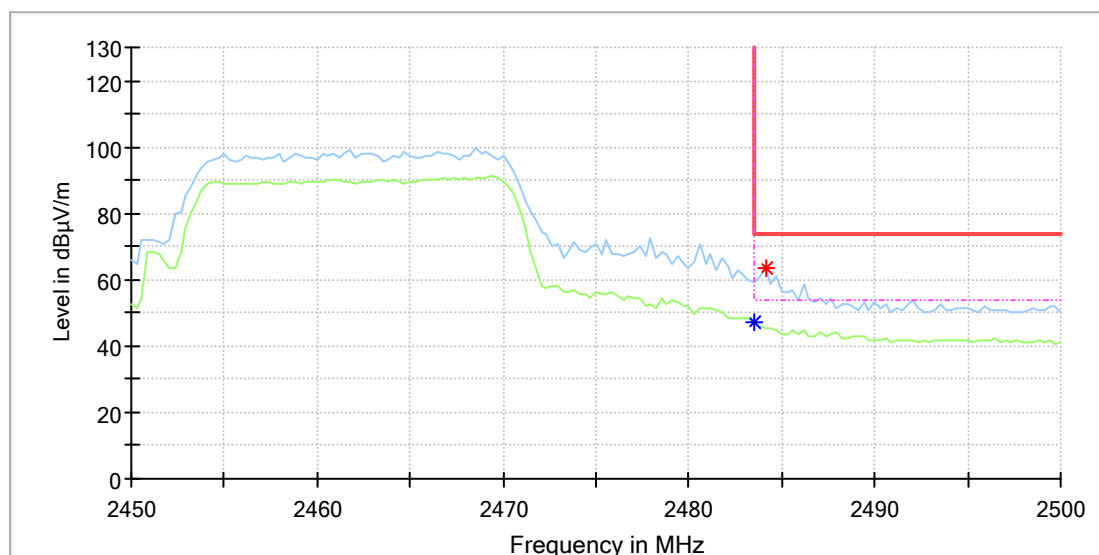
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: WIFI 2.4G_11g_Ch11
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.529412	---	47.10	54.00	6.90	150.0	H	328.0	9.0
2484.117647	63.75	---	74.00	10.25	150.0	H	323.0	9.0

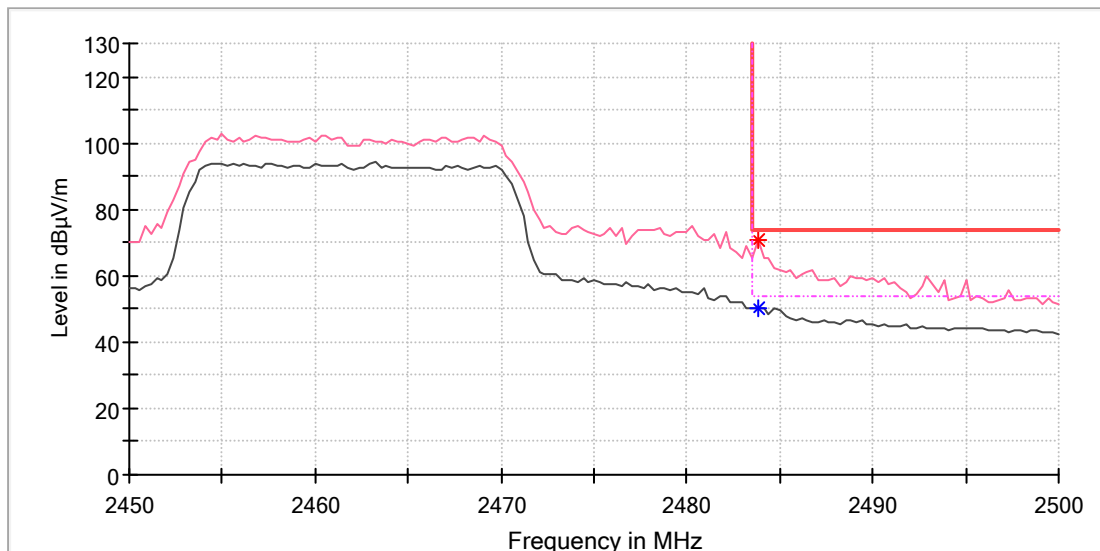
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11g_Ch11
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.823529	70.52	---	74.00	3.48	150.0	V	282.0	9.0
2483.823529	---	50.27	54.00	3.73	150.0	V	282.0	9.0

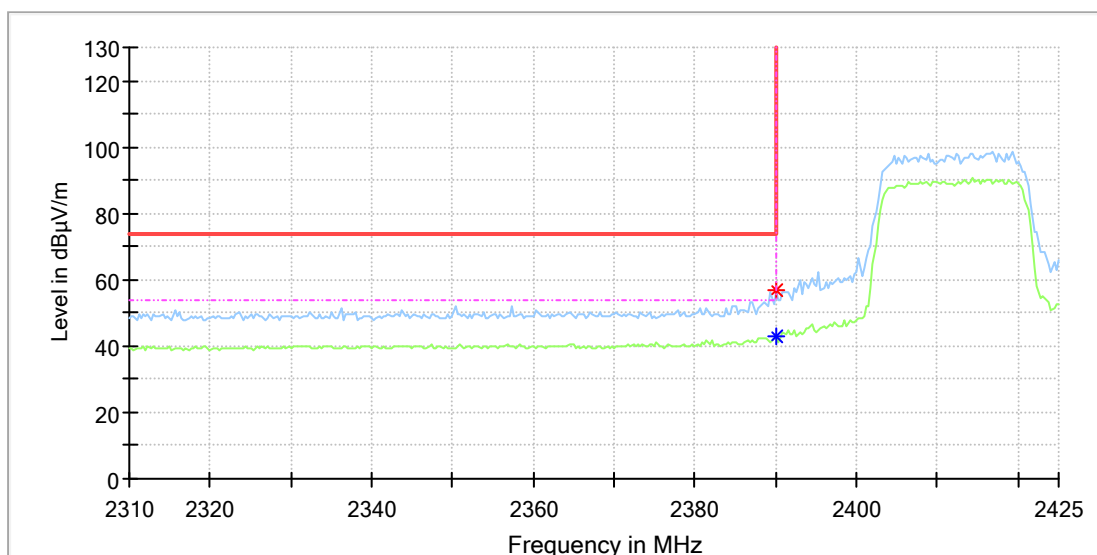
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n20_Ch1
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2390.000000	---	43.14	54.00	10.86	150.0	H	210.0	8.5
2390.000000	56.62	---	74.00	17.38	150.0	H	210.0	8.5

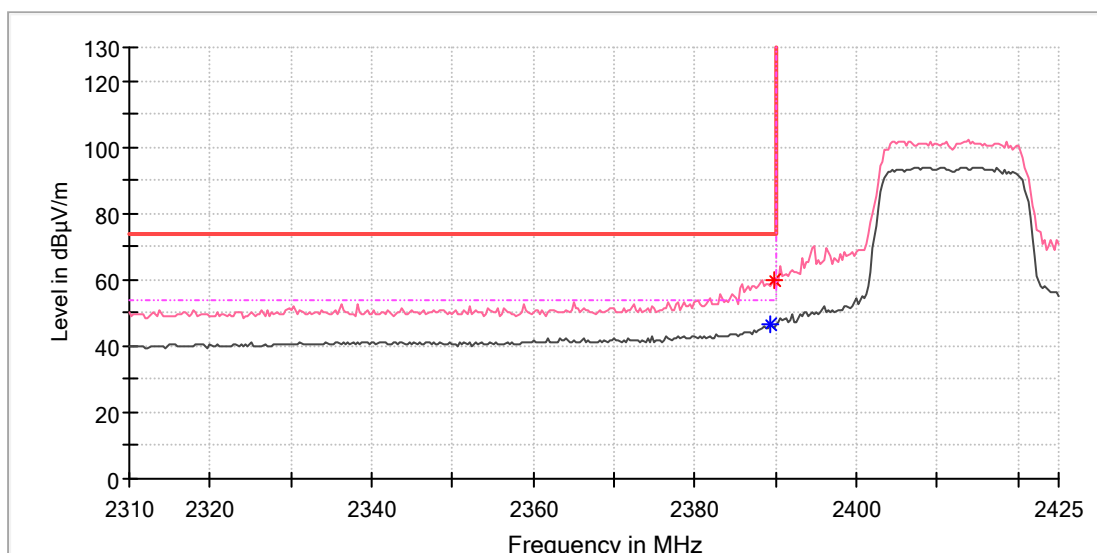
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n20_Ch1
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2389.411765	---	46.36	54.00	7.64	150.0	V	314.0	8.5
2389.705882	60.02	---	74.00	13.98	150.0	V	115.0	8.5

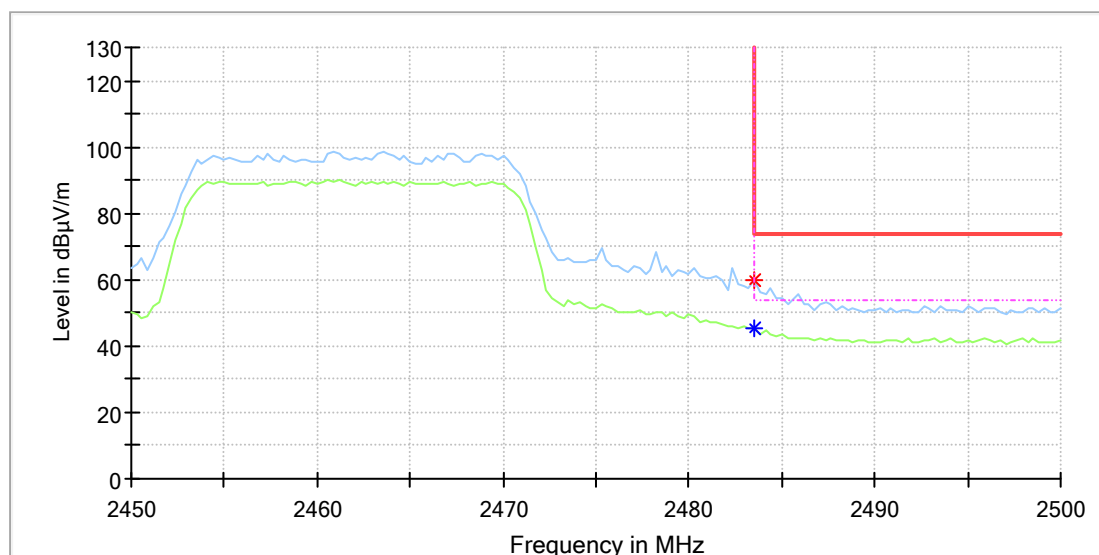
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: WIFI 2.4G_11n20_Ch11
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.529412	---	45.46	54.00	8.54	150.0	H	253.0	9.0
2483.529412	59.62	---	74.00	14.38	150.0	H	253.0	9.0

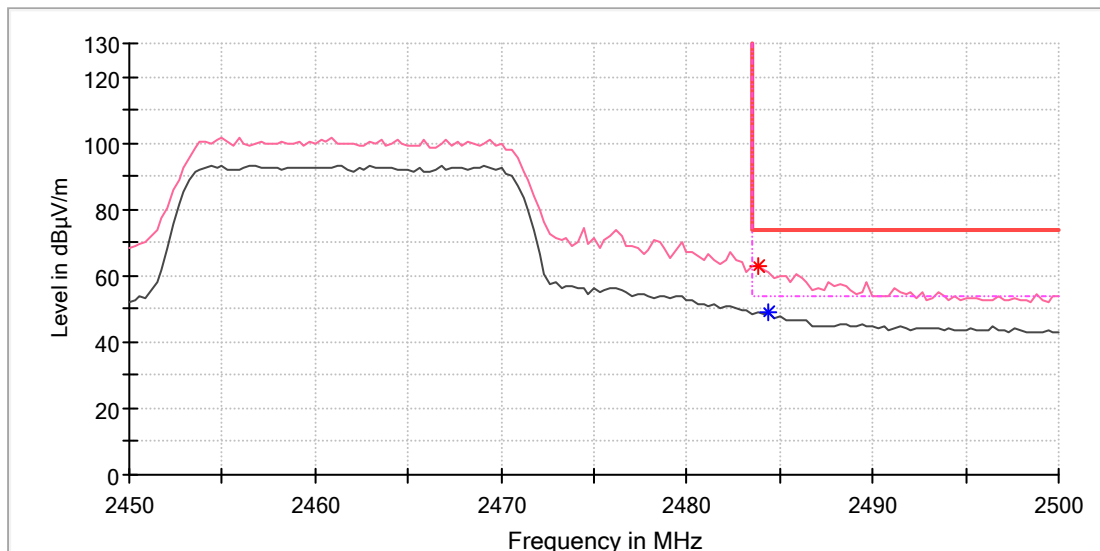
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n20_Ch11
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.823529	63.06	---	74.00	10.94	150.0	V	289.0	9.0
2484.411765	---	49.16	54.00	4.84	150.0	V	262.0	9.0

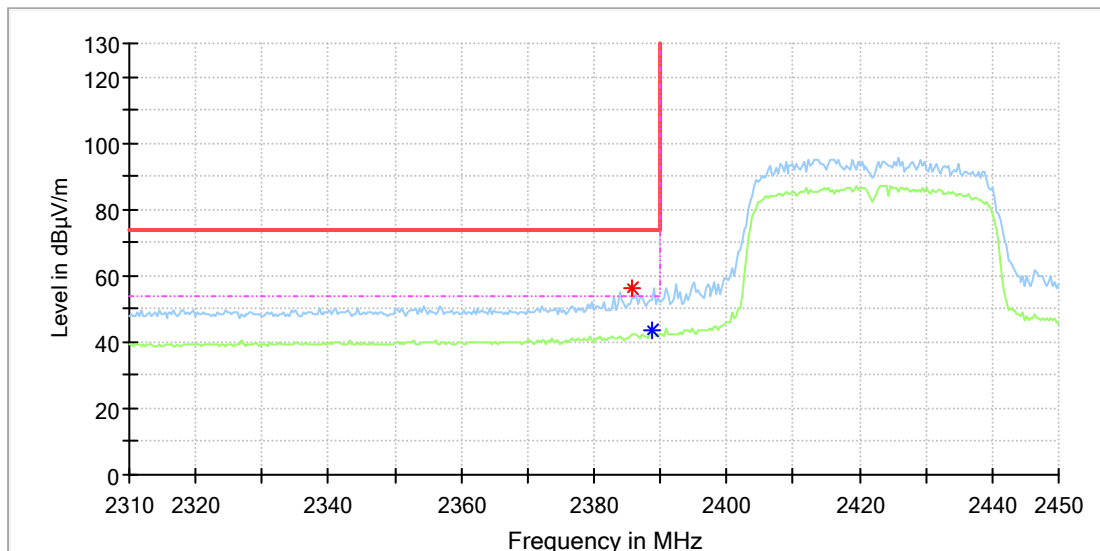
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n40_Ch3
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2385.882353	56.52	---	74.00	17.48	150.0	H	257.0	8.5
2388.823529	---	43.58	54.00	10.42	150.0	H	257.0	8.5

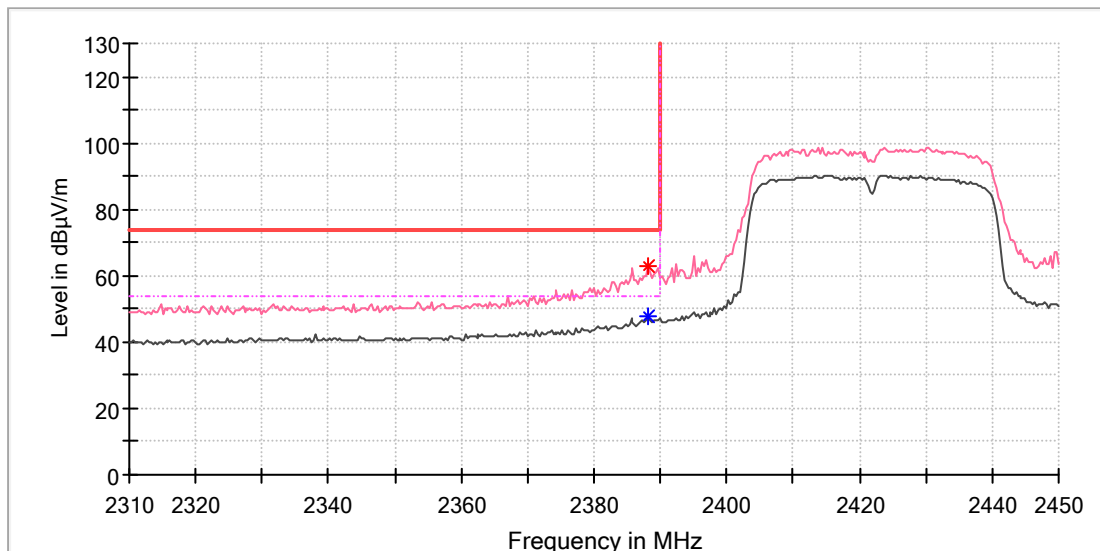
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n40_Ch3
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2388.235294	63.05	---	74.00	10.95	150.0	V	310.0	8.5
2388.235294	---	47.89	54.00	6.11	150.0	V	310.0	8.5

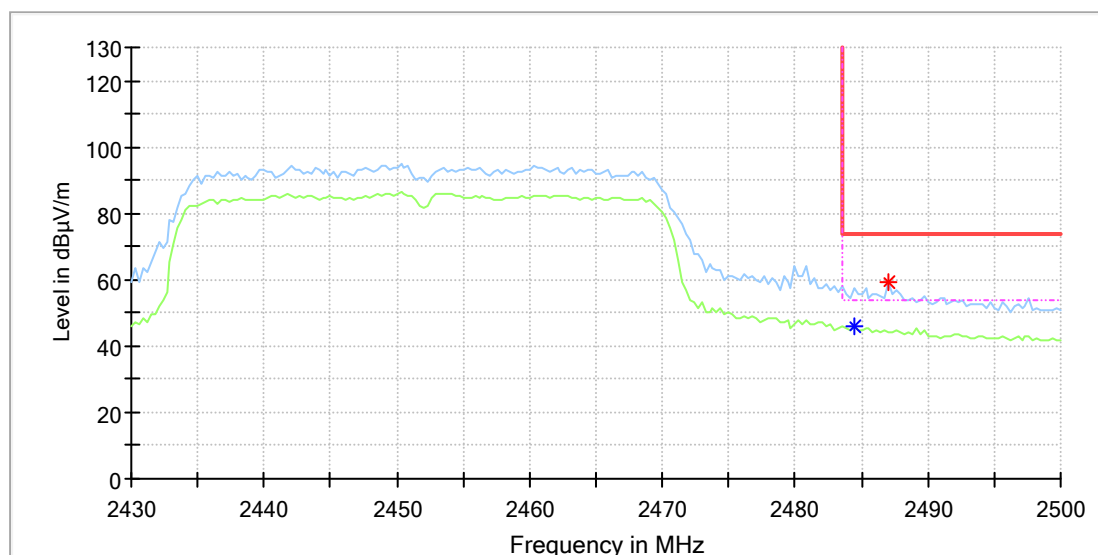
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: WIFI 2.4G_11n40_Ch9
 Order No/Sample No: 168516453/A003877474-003
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:53%
 Test Standard: FCC 15.247
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2484.411765	---	46.10	54.00	7.90	150.0	H	253.0	9.0
2487.058824	59.22	---	74.00	14.78	150.0	H	245.0	9.0

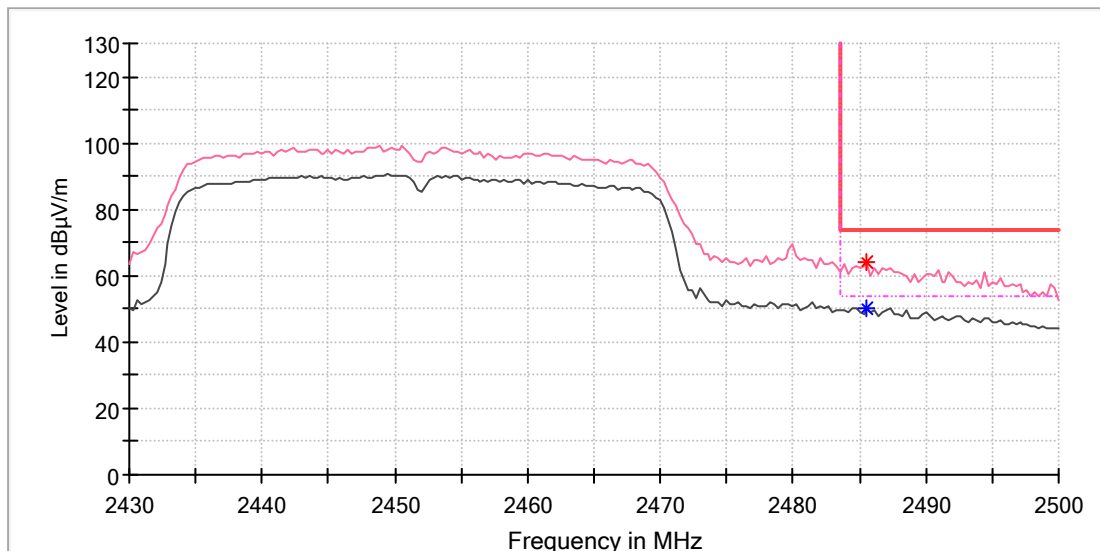
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Test Report

EUT Information

EUT Name: LED Smart Bulb
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: WIFI 2.4G_11n40_Ch9
Order No/Sample No: 168516453/A003877474-003
Test Voltage:: 120V/60Hz
Remark: Temp 23 Humi:53%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2485.588235	64.38	---	74.00	9.62	150.0	V	258.0	9.0
2485.588235	---	50.33	54.00	3.67	150.0	V	258.0	9.0

Final_Result

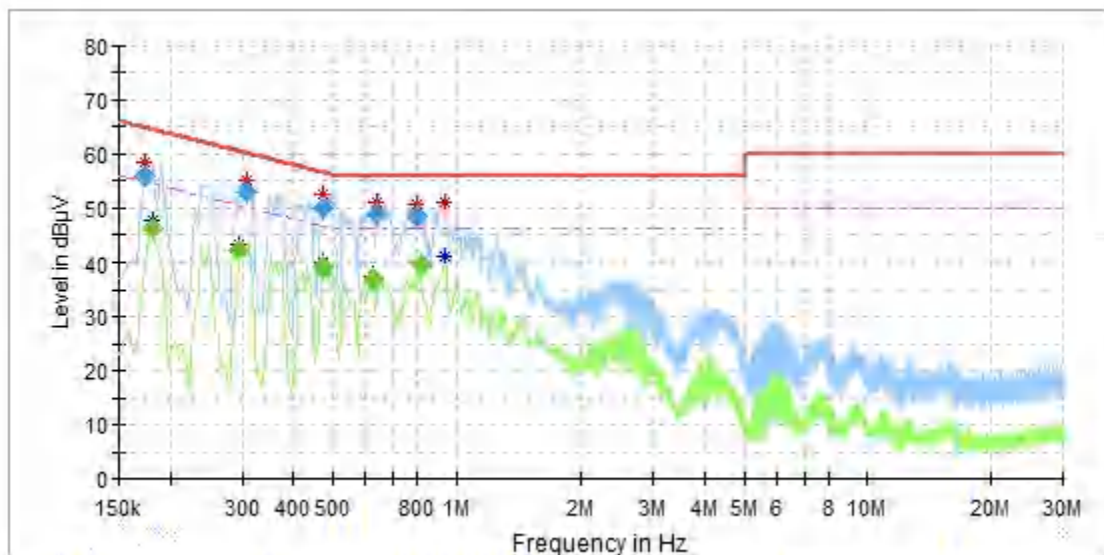
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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Appendix B.8: Test Results of Conducted Emissions

Test Report

EUT Information

EUT Name: LED Smart Bulb
Order Number: 168516453
Model: 14aSA-C500ST-E1T_NA_2P
Test Mode: Lighting+BT+Wifi
Test Voltage: AC 120V/60Hz
Test Standard: FCC Part 15B
Test By./Review By: Soloman Wu/Shower Dai
Tem./Hum./Pressure: 23.7°C/50.3%/101kPa
Remark: SR2



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.174000	58.26	---	64.77	6.51	L1	10
0.182000	---	47.60	54.39	6.79	L1	10
0.296000	---	43.27	50.35	7.08	L1	10
0.308000	55.14	---	60.02	4.88	L1	10
0.472000	52.49	---	56.48	3.99	L1	10
0.472000	---	39.97	46.48	6.51	L1	10
0.626000	---	37.40	46.00	8.60	L1	10
0.642000	50.81	---	56.00	5.19	L1	10
0.802000	50.47	---	56.00	5.53	L1	10
0.818000	---	39.46	46.00	6.54	L1	10
0.936000	---	40.89	46.00	5.11	L1	10
0.936000	50.83	---	56.00	5.17	L1	10

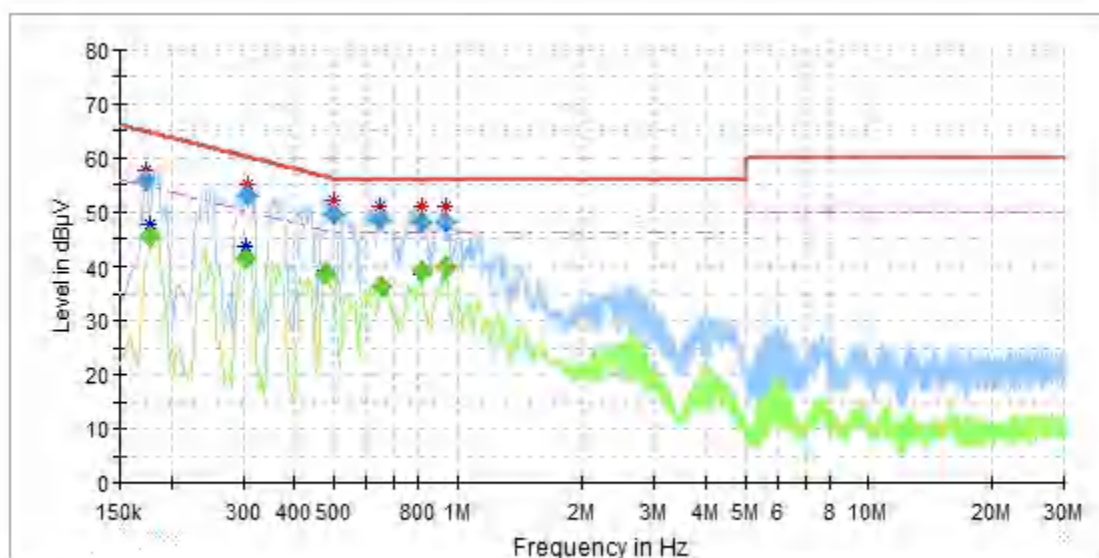
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.174000	55.91	---	64.77	8.86	1000.0	9.000	L1	10
0.182000	---	46.10	54.39	8.29	1000.0	9.000	L1	10
0.296000	---	41.89	50.35	8.46	1000.0	9.000	L1	10
0.308000	52.98	---	60.02	7.04	1000.0	9.000	L1	10
0.472000	---	39.08	46.48	7.40	1000.0	9.000	L1	10
0.472000	49.70	---	56.48	6.78	1000.0	9.000	L1	10
0.626000	---	36.72	46.00	9.28	1000.0	9.000	L1	10
0.642000	48.68	---	56.00	7.32	1000.0	9.000	L1	10
0.802000	48.20	---	56.00	7.80	1000.0	9.000	L1	10
0.818000	---	39.57	46.00	6.43	1000.0	9.000	L1	10

Test Report

EUT Information

EUT Name: LED Smart Bulb
 Order Number: 168516453
 Model: 14aSA-C500ST-E1T_NA_2P
 Test Mode: Lighting+BT+Wifi
 Test Voltage: AC 120V/60Hz
 Test Standard: FCC Part 15B
 Test By./Review By: Soloman Wu/Shower Dai
 Tem./Hum./Pressure: 23.7°C/50.3%/101kPa
 Remark: SR2



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.174000	57.84	---	64.77	6.93	N	10
0.178000	---	47.58	54.58	7.00	N	10
0.304000	---	43.53	50.13	6.60	N	10
0.308000	55.11	---	60.02	4.91	N	10
0.476000	---	39.11	46.41	7.30	N	10
0.500000	52.19	---	56.00	3.81	N	10
0.650000	51.10	---	56.00	4.90	N	10
0.654000	---	36.68	46.00	9.32	N	10
0.818000	51.11	---	56.00	4.89	N	10
0.818000	---	38.76	46.00	7.24	N	10
0.934000	50.93	---	56.00	5.07	N	10
0.938000	---	39.92	46.00	6.08	N	10

Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.174000	55.82	---	64.77	8.95	1000.0	9.000	N	10
0.178000	---	45.52	54.58	9.06	1000.0	9.000	N	10
0.304000	---	41.37	50.13	8.76	1000.0	9.000	N	10
0.308000	52.90	---	60.02	7.12	1000.0	9.000	N	10
0.476000	---	38.83	46.41	7.58	1000.0	9.000	N	10
0.500000	49.48	---	56.00	6.52	1000.0	9.000	N	10
0.650000	48.21	---	56.00	7.79	1000.0	9.000	N	10
0.654000	---	36.37	46.00	9.63	1000.0	9.000	N	10
0.818000	---	39.18	46.00	6.82	1000.0	9.000	N	10
0.818000	48.04	---	56.00	7.96	1000.0	9.000	N	10
0.934000	47.97	---	56.00	8.03	1000.0	9.000	N	10
0.938000	---	39.71	46.00	6.29	1000.0	9.000	N	10

---End of appendix---