Prüfbericht - Produkte
Test Report - Products

TÜVRheinland®

Prüfbericht-Nr.: *Test report no.*:	**CN24LM90 002**	**Auftrags-Nr.:** *Order no.*:	168485064	Seite 1 von 21 *Page 1 of 21*
Kunden-Referenz-Nr.: *Client reference no.*:	N/A	**Auftragsdatum:** *Order date:*	2024-09-27	
Auftraggeber: *Client*:	**SAIC GM WULING AUTOMOBILE CO.,LTD** 18th Hexi Road, Liuzhou City, Guangxi, Zhuang Autonomous Region, China			
Prüfgegenstand: *Test item*:	ICE (In Car Entertaiment)			
Bezeichnung / Typ-Nr.: *Identification / Type no.*:	MP-202S-00			
Auftrags-Inhalt: *Order content*:	Test Report			
Prüfgrundlage: *Test specification*:	CFR47 FCC Part 15: Subpart C Section 15.247			

Wareneingangsdatum: *Date of sample receipt*:	2024-09-27
Prüfmuster-Nr.: *Test sample no:*	A003717814-001~003
Prüfzeitraum: *Testing period*:	2024-10-27 - 2024-12-20
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:	X Jonathan Li Signed by: Jonathan Li	**genehmigt von:** *authorized by*:	x Bell Hu Signed by: Bell Hu
Datum: *Date:* 2025-05-20		**Ausstellungsdatum:** *Issue date:* 2025-05-20	
Stellung / Position:	Sachverständige(r)/Expert	**Stellung** / Position:	Sachverständige(r)/Expert

Sonstiges / *Other*: This report is for BDR/EDR operation.

FCC ID: 2AVYX-MP202S00

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.
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Remarks

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Test Summary

5.1.1 ANTENNA REQUIREMENT
RESULT: Pass

5.1.2 MAXIMUM PEAK CONDUCTED OUTPUT POWER
RESULT: Pass

5.1.3 99% BANDWIDTH
RESULT: Pass

5.1.4 20DB BANDWIDTH
RESULT: Pass

5.1.5 CARRIER FREQUENCY SEPARATION
RESULT: Pass

5.1.6 NUMBER OF HOPPING FREQUENCY
RESULT: Pass

5.1.7 TIME OF OCCUPANCY
RESULT: Pass

5.1.8 CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH
RESULT: Pass

5.1.9 RADIATED SPURIOUS EMISSION
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: Photographs of the Test Set-up

Appendix B: Test Results of Bluetooth BR/EDR mode

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.
2-3F, 101 & 102, No.2, Nuclear Power Industrial Park, Fuming Community, Fucheng Street, Longhua District, Shenzhen 518000, People's Republic of China

FCC Accreditation Designation No.: CN1260

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

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 basics 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)
Occupied Channel Bandwidth	± 2.08 %
RF output power, conducted	± 0.99 dB
Unwanted Emissions, conducted	± 0.89 dB
All emissions, radiated	±4.17 dB

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A & B 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 **Error! Reference source not found.** 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 is a Bluetooth Headset which supports Classic Bluetooth 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
Product Name:	ICE (In Car Entertaiment)
Model No.:	MP-202S-00
Operating Voltage:	DC 12V
Testing Voltage:	DC 12 V
Operating Temperature Range:	-30 °C ~ 80 °C
Operating Temperature Range:	0 °C ~ 40 °C
Technical Specification of Bluetooth BR/EDR	
Operating Frequency:	2402 MHz to 2480 MHz
Type of Modulation:	GFSK, π/4-DQPSK, 8DPSK
Channel Number:	79 channels
Channel Separation:	1MHz
Antenna Type:	Integral Antenna
Antenna Gain of Bluetooth:	1 dBi

Note: The correctness of all data provided by customer in the test report is ensured and responsible of the customer. Any misjudgment of the test results caused by the use of incorrect data provided by customer shall be borne by the customer.

Table 4: RF Channel and Frequency of Bluetooth BR/EDR

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
0	**2402.00**	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	**2480.00**
19	2421.00	39	**2441.00**	59	2461.00		

Test frequencies are lowest channel: 2402 MHz, middle channel: 2441 MHz and highest channel: 2480 MHz for Bluetooth BR/EDR

3.3 Independent Operation Modes

The basic operation modes are:

A. On, Bluetooth transmitting mode
   1) Low Channel
   2) Middle Channel
   3) High Channel

B. On, Transmitting on Hopping channel

C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- FCC/IC Label and Location Info
- Schematics
- Operation Description
- Block Diagram
- 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 MP-202S-00 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 5: 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)

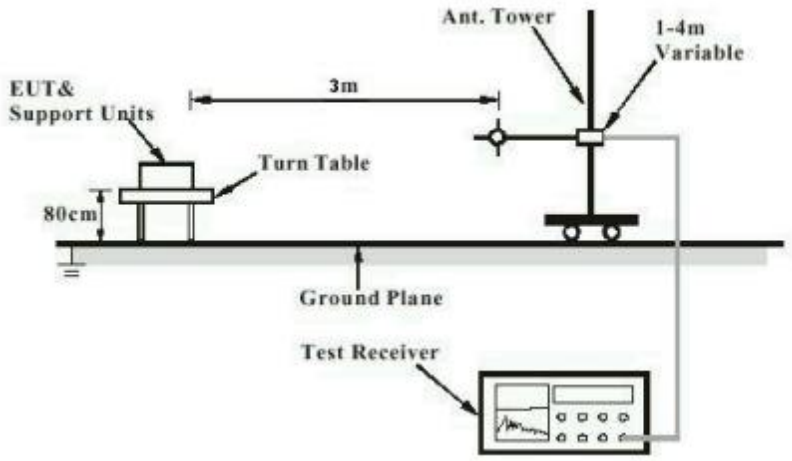


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

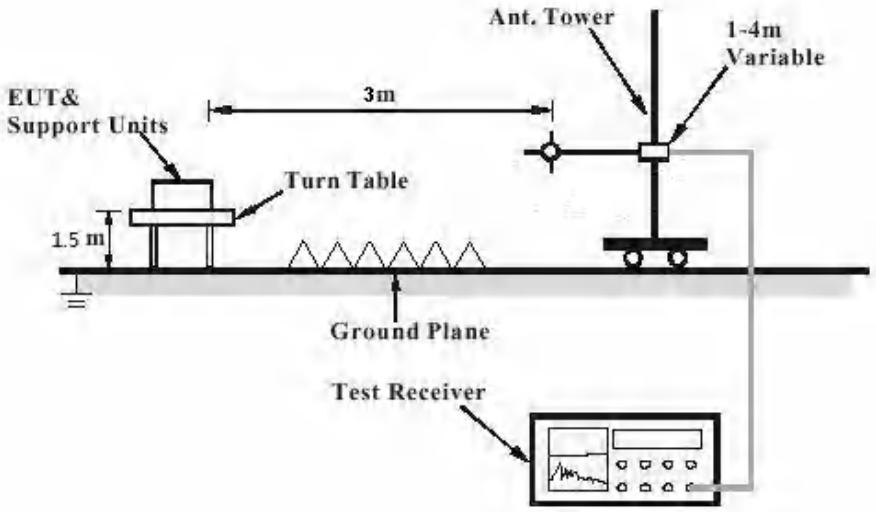
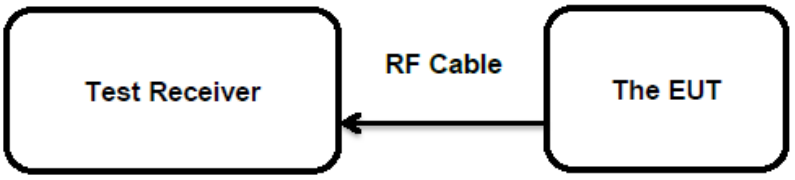


Diagram of Measurement Configuration for Conducted Transmitter Measurement



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 Integral antenna, the directional gain of antenna is 1dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement.

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

Refer to EUT Photo for further details.

5.1.2 Maximum Peak Conducted Output Power

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(b)(1) RSS-247 Clause 5.4(b)
Basic standard	:	ANSI C63.10: 2013
Limits	:	FHSS < 0.125 Watts
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	B
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
Atmospheric pressure	:	101 kPa

Table 6: Test Result of Maximum Peak Conducted Output Power, Bluetooth BR & EDR

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
GFSK (BR)	2402.0	7.34	0.0054	< 0.125
	2441.0	7.89	0.0062	
	2480.0	7.93	0.0062	
Maximum Measured Value		7.93	0.0062	

Test Mode	Test Channel (MHz)	Measured Peak Power		Limit (W)
		(dBm)	(W)	
8DPSK (EDR)	2402.0	6.69	0.0047	< 0.125
	2441.0	7.32	0.0054	
	2480.0	7.09	0.0051	
Maximum Measured Value		7.32	0.0054	

Note:
1) The cable loss is taken into account in results.
2) Antenna gain(G): 1dBi

5.1.3 99% Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a) RSS-Gen Clause 6.7
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	A
Test channel	:	Low / Middle / High
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.4 20dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1) RSS-247 Clause 5.1(a)
Basic standard	:	ANSI C63.10: 2013
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	A
Test channel	:	Low / Middle / High
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.5 Carrier Frequency Separation

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.247(a)(1) RSS-247 Clause 5.1(b)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 25kHz or 2/3 of 20dB bandwidth, whichever is greater
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	B
Test channel	:	Low / Middle / High
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.6 Number of Hopping Frequency

RESULT: **Pass**

Test Specification

Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	≥ 15 non-overlapping channels
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	B
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.7 Time of Occupancy

RESULT: **Pass**

Test Specification

Test standard	:	FCC part 15.247(a)(1)(iii) RSS-247 Clause 5.1(d)
Basic standard	:	ANSI C63.10: 2013
Limits	:	< 0.4s
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	B
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
Atmospheric pressure	:	101 kPa

For the measurement records, refer to the appendix B.

5.1.8 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	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	A
Test channel	:	Low / Middle / High
Ambient temperature	:	24.9 ℃
Relative humidity	:	41 %
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 B.

5.1.9 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	:	2024-10-27 - 2024-12-20
Input voltage	:	DC 12.0V
Operation mode	:	A
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 B.

6 Photographs of the Test Set-Up

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

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Appendix A: Test Results of Bluetooth LE

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1.1 20dB Emission Bandwidth

1.1.1 Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.936	2401.538	2402.474	---	---
		2441	0.945	2440.535	2441.480	---	---
		2480	0.942	2479.535	2480.477	---	---
3DH5	Ant1	2402	1.347	2401.319	2402.666	---	---
		2441	1.347	2440.319	2441.666	---	---
		2480	1.347	2479.319	2480.666	---	---

1.1.2 Test Graphs

DH5_Ant1_2402

DH5_Ant1_2441

DH5_Ant1_2480

3DH5_Ant1_2402

3DH5_Ant1_2441

3DH5_Ant1_2480

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 40 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 18.11 dB
Ref Level 30.00 dBm
ΔMkr3 1.347 MHz
0.14 dB
Center 2.480000 GHz
#Res BW 20 kHz
#Video BW 62 kHz
Span 3.000 MHz
Sweep 7.20 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 2.479 319 GHz -20.78 dBm
2 N 1 f 2.479 937 GHz -0.06619 dBm
3 Δ1 1 f (Δ) 1.347 MHz (Δ) 0.1441 dB
Dec 18, 2024
7:37:10 PM
Frequency
Center Frequency
2.480000000 GHz
Settings
Span
3.00000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
AUTO TUNE
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Local
Signal Track
(Span Zoom)

1.2 Occupied Channel Bandwidth

1.2.1 Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.90604	2401.5487	2402.4548	---	---
		2441	0.90623	2440.5460	2441.4522	---	---
		2480	0.90649	2479.5457	2480.4521	---	---
3DH5	Ant1	2402	1.2106	2401.3832	2402.5938	---	---
		2441	1.2068	2440.3860	2441.5928	---	---
		2480	1.2078	2479.3844	2480.5922	---	---

1.2.2 Test Graphs

DH5_Ant1_2402

DH5_Ant1_2441

DH5_Ant1_2480

3DH5_Ant1_2402

3DH5_Ant1_2441

3DH5_Ant1_2480

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Input Z: 50 Ω
Atten: 40 dB
Trig: Free Run
Center Freq: 2.480000000 GHz
Gate: Off
Avg|Hold: 100/100
Corr CCorr
Freq Ref: Int (S)
#IF Gain: Low
Radio Std: None
Align: Auto
1 Graph
Ref Lvl Offset 18.11 dB
Ref Value 30.00 dBm
Mkr1 2.479937000 GHz
-0.13 dBm
Scale/Div 10.0 dB
Log
Center 2.480000 GHz
#Res BW 20.000 kHz
#Video BW 62.000 kHz
Span 3 MHz
Sweep 7.20 ms (1001 pts)
2 Metrics
Occupied Bandwidth
1.2078 MHz
Total Power
13.7 dBm
Transmit Freq Error
-11.672 kHz
x dB Bandwidth
1.392 MHz
% of OBW Power
99.00 %
x dB
-26.00 dB
Dec 18, 2024
7:37:16 PM
Frequency
Center Frequency
2.480000000 GHz
Settings
Span
3.0000 MHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz
Local

1.3 Appendix C: Maximum conducted output power

1.3.1 Test Result PK

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	7.34	≤20.97	PASS
		2441	7.89	≤20.97	PASS
		2480	7.93	≤20.97	PASS
3DH5	Ant1	2402	6.69	≤20.97	PASS
		2441	7.32	≤20.97	PASS
		2480	7.09	≤20.97	PASS

1.3.2 Test Result AV

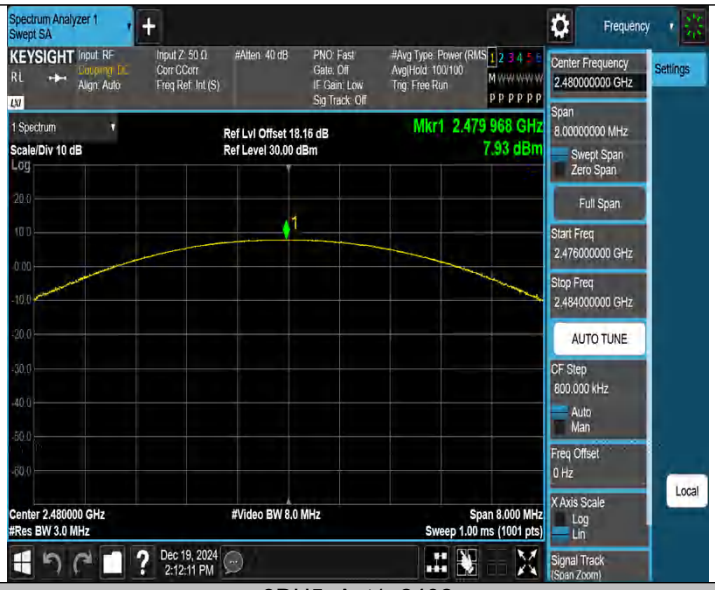
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	6.88	≤20.97	PASS
		2441	7.63	≤20.97	PASS
		2480	7.67	≤20.97	PASS
3DH5	Ant1	2402	3.77	≤20.97	PASS
		2441	4.62	≤20.97	PASS
		2480	4.64	≤20.97	PASS

1.3.3 Test Graphs PK

DH5_Ant1_2402

DH5_Ant1_2441

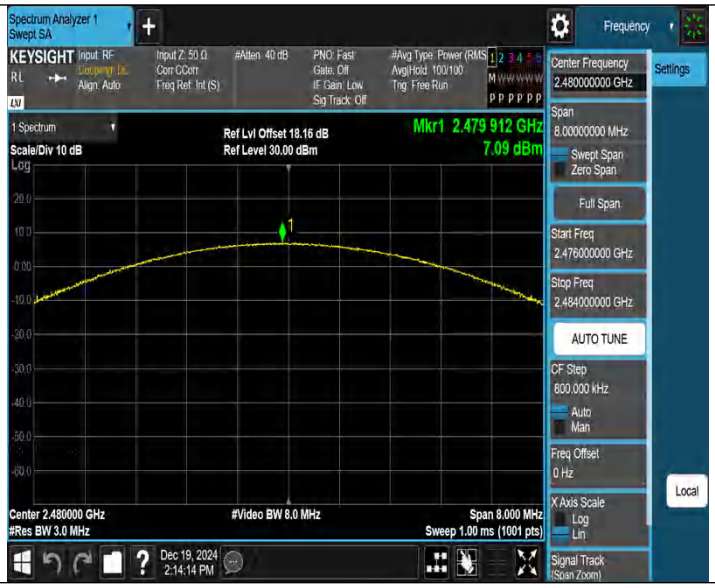
DH5_Ant1_2480



3DH5_Ant1_2402

3DH5_Ant1_2441

3DH5_Ant1_2480


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Corr CCorr
Freq Ref: Int (S)
#Atten: 40 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 18.16 dB
Ref Level 30.00 dBm
Mkr1 2.479 912 GHz
7.09 dBm
Center 2.480000 GHz
#Res BW 3.0 MHz
#Video BW 8.0 MHz
Span 8.000 MHz
Sweep 1.00 ms (1001 pts)
Dec 19, 2024
2:14:14 PM
Frequency
Settings
Center Frequency
2.480000000 GHz
Span
8.00000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
2.476000000 GHz
Stop Freq
2.484000000 GHz
AUTO TUNE
CF Step
800.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Local

1.4 Carrier frequency separation

1.4.1 Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.846	≥0.630	PASS
3DH5	Ant1	Hop	1.014	≥0.898	PASS

1.4.2 Test Graphs

DH5_Ant1_Hop

3DH5_Ant1_Hop

1.5 Time of occupancy

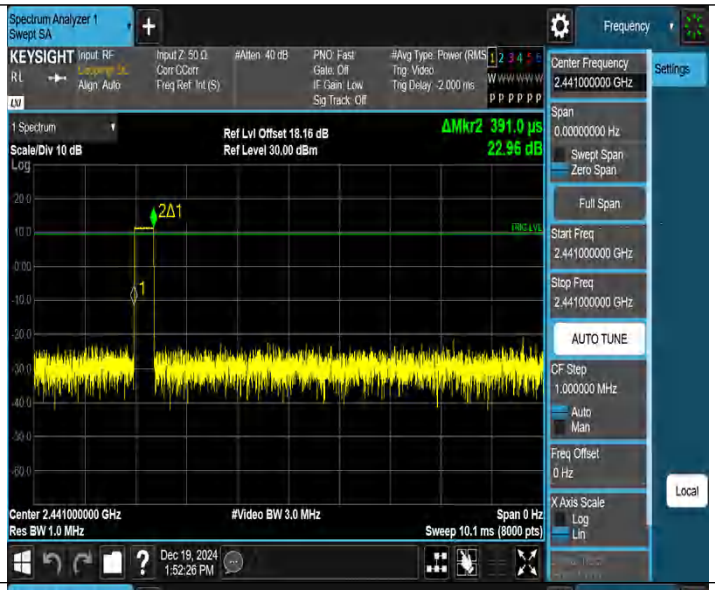
1.5.1 Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.384	312	0.12	≤0.4	PASS
DH3	Ant1	Hop	0.391	158	0.062	≤0.4	PASS
DH5	Ant1	Hop	0.391	104	0.041	≤0.4	PASS
3DH1	Ant1	Hop	0.243	319	0.078	≤0.4	PASS
3DH3	Ant1	Hop	0.243	162	0.039	≤0.4	PASS
3DH5	Ant1	Hop	0.241	108	0.026	≤0.4	PASS

1.5.2 Test Graphs

DH1_Ant1_Hop

DH3_Ant1_Hop

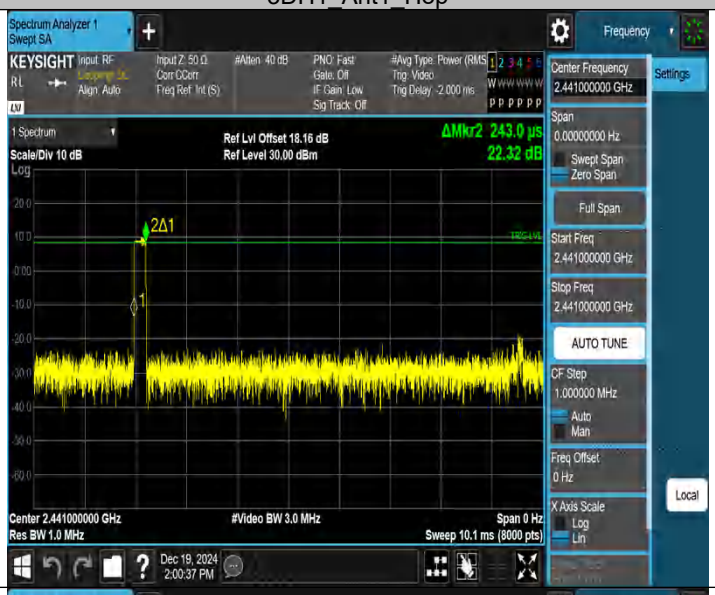

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Ref Lvl Offset 18.16 dB
Ref Level 30.00 dBm
Scale/Div 10 dB
ΔMkr2 391.0 µs
22.96 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#Video BW 3.0 MHz
Span 0 Hz
Sweep 10.1 ms (8000 pts)
Dec 19, 2024
1:52:26 PM
Frequency
Center Frequency
2.441000000 GHz
Span
0.00000000 Hz
Swept Span
Zero Span
Full Span
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
AUTO TUNE
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Settings
Local

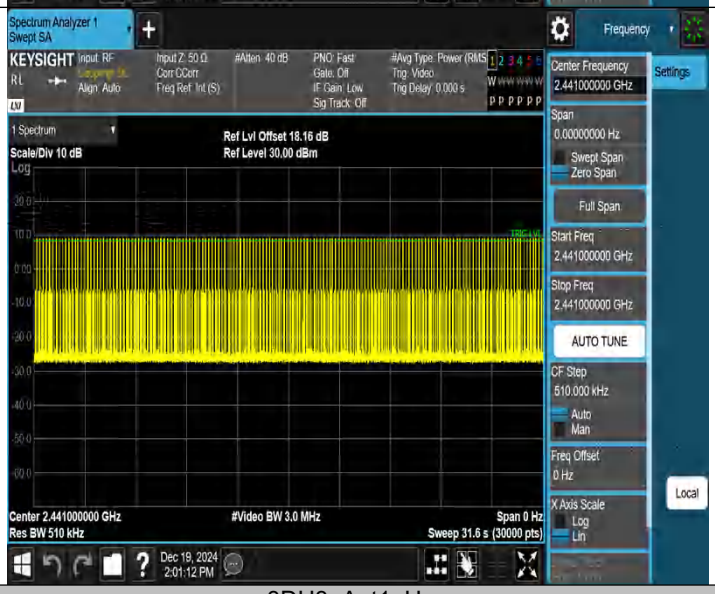
Spectrum Analyzer 1
Swept SA
KEYSIGHT
Ref Lvl Offset 18.16 dB
Ref Level 30.00 dBm
Scale/Div 10 dB
Center 2.441000000 GHz
Res BW 510 kHz
#Video BW 3.0 MHz
Span 0 Hz
Sweep 31.6 s (30000 pts)
Dec 19, 2024
1:53:01 PM
Frequency
Center Frequency
2.441000000 GHz
Span
0.00000000 Hz
Swept Span
Zero Span
Full Span
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
AUTO TUNE
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Settings
Local

DH5_Ant1_Hop

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Ref Lvl Offset 18.16 dB
Ref Level 30.00 dBm
Scale/Div 10 dB
ΔMkr2 391.0 µs
23.22 dB
Center 2.441000000 GHz
Res BW 1.0 MHz
#Video BW 3.0 MHz
Span 0 Hz
Sweep 10.1 ms (8000 pts)
Dec 19, 2024
1:48:36 PM
Frequency
Center Frequency
2.441000000 GHz
Span
0.00000000 Hz
Swept Span
Zero Span
Full Span
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
AUTO TUNE
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Settings
Local

3DH1_Ant1_Hop





3DH3_Ant1_Hop

3DH5_Ant1_Hop

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 40 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Video
Trig Delay: 0.000 s
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 18.16 dB
Ref Level 30.00 dBm
Center 2.441000000 GHz
Res BW 510 kHz
#Video BW 3.0 MHz
Span 0 Hz
Sweep 31.6 s (30000 pts)
Dec 19, 2024
2:00:02 PM
Frequency
Center Frequency
2.441000000 GHz
Settings
Span
0.00000000 Hz
Swept Span
Zero Span
Full Span
Start Freq
2.441000000 GHz
Stop Freq
2.441000000 GHz
AUTO TUNE
CF Step
510.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Local

1.6 Number of hopping channels

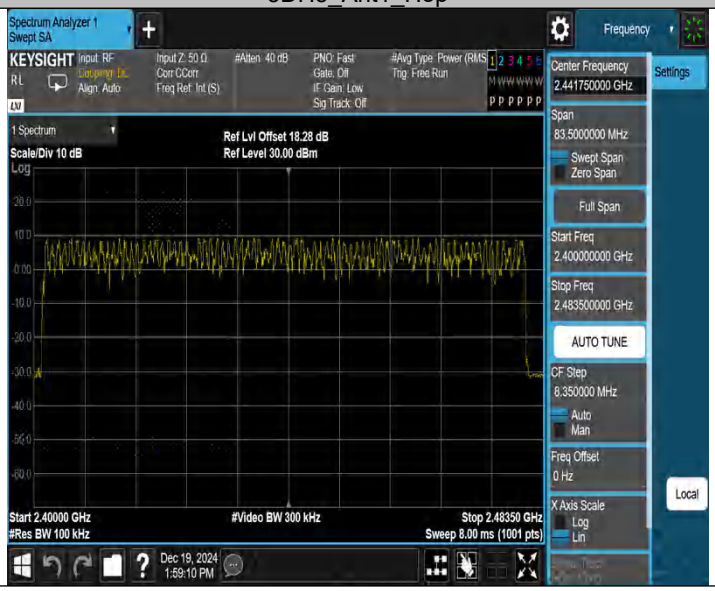
1.6.1 Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

1.6.2 Test Graphs

DH5_Ant1_Hop

3DH5_Ant1_Hop



1.7 Band edge measurements

1.7.1 Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	8.41	-43.85	≤-11.59	PASS
		High	2480	8.38	-43.12	≤-11.63	PASS
3DH5	Ant1	Low	2402	3.70	-42.84	≤-16.30	PASS
		High	2480	3.71	-43.54	≤-16.29	PASS
DH5	Ant1	Hopping	2402	10.61	-43.77	≤-9.40	PASS
		Hopping	2480	10.52	-42.25	≤-9.48	PASS
3DH5	Ant1	Hopping	2402	7.91	-43.18	≤-12.09	PASS
		Hopping	2480	8.57	-42.32	≤-11.43	PASS

1.7.2 Test Graphs

DH5_Ant1_Low_2402

DH5_Ant1_High_2480

3DH5_Ant1_Low_2402

3DH5_Ant1_High_2480

DH5_Ant1_Hopping_2402

DH5_Ant1_Hopping_2480

3DH5_Ant1_Hopping_2402

3DH5_Ant1_Hopping_2480

1.8 Conducted Spurious Emission

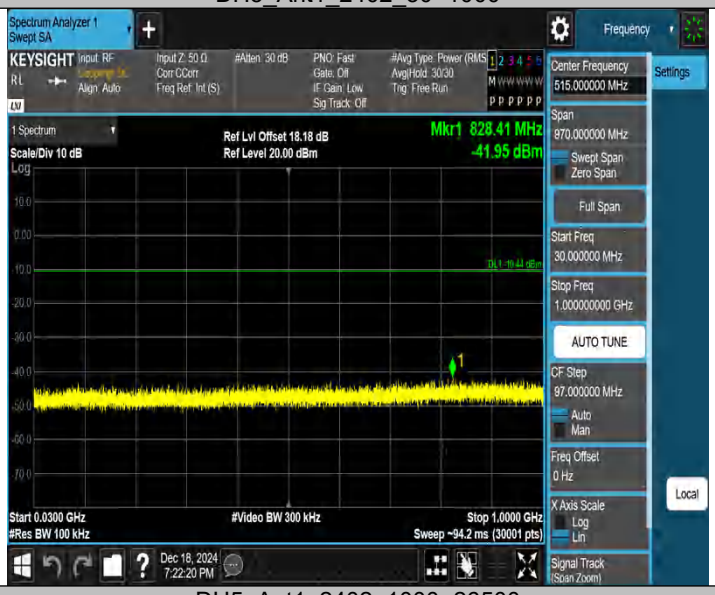
1.8.1 Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	9.56	9.56	---	PASS
			30~1000	9.56	-41.95	≤-10.44	PASS
			1000~26500	9.56	-32.66	≤-10.44	PASS
		2441	Reference	9.77	9.77	---	PASS
			30~1000	9.77	-41.62	≤-10.23	PASS
			1000~26500	9.77	-32.88	≤-10.23	PASS
		2480	Reference	9.59	9.59	---	PASS
			30~1000	9.59	-42.11	≤-10.41	PASS
			1000~26500	9.59	-32.44	≤-10.41	PASS
3DH5	Ant1	2402	Reference	4.90	4.90	---	PASS
			30~1000	4.90	-42.42	≤-15.1	PASS
			1000~26500	4.90	-32.84	≤-15.1	PASS
		2441	Reference	5.24	5.24	---	PASS
			30~1000	5.24	-41.68	≤-14.76	PASS
			1000~26500	5.24	-32.48	≤-14.76	PASS
		2480	Reference	5.14	5.14	---	PASS
			30~1000	5.14	-41.68	≤-14.86	PASS
			1000~26500	5.14	-32.91	≤-14.86	PASS

1.8.2 Test Graphs

DH5_Ant1_2402_0~Reference

DH5_Ant1_2402_30~1000



DH5_Ant1_2402_1000~26500

DH5_Ant1_2441_0~Reference

DH5_Ant1_2441_30~1000

DH5_Ant1_2441_1000~26500

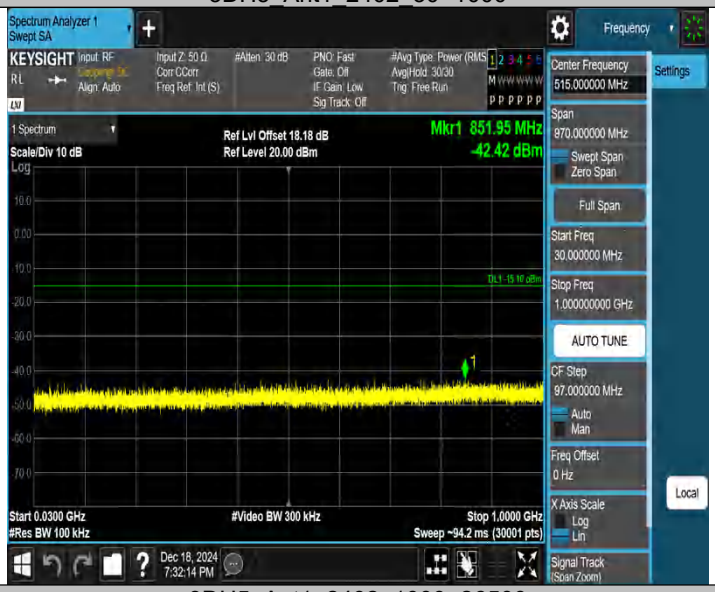
DH5_Ant1_2480_0~Reference

DH5_Ant1_2480_30~1000

DH5_Ant1_2480_1000~26500

3DH5_Ant1_2402_0~Reference

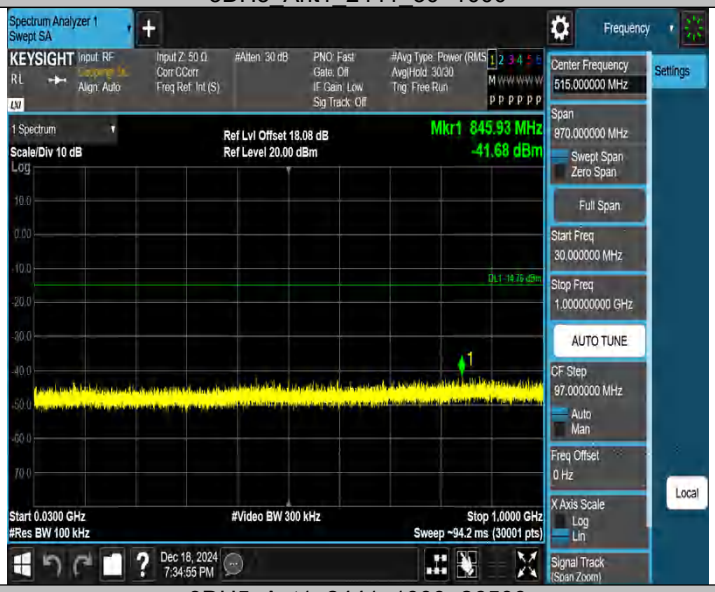
3DH5_Ant1_2402_30~1000



3DH5_Ant1_2402_1000~26500

3DH5_Ant1_2441_0~Reference

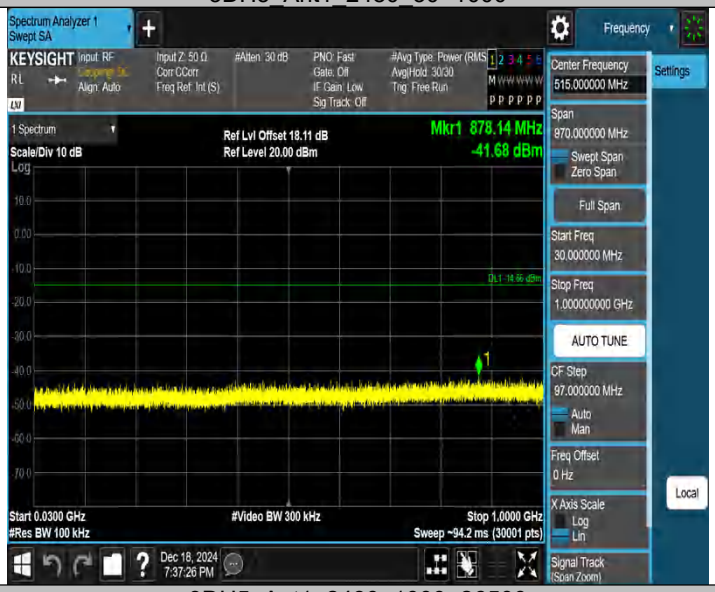
3DH5_Ant1_2441_30~1000



3DH5_Ant1_2441_1000~26500

3DH5_Ant1_2480_0~Reference

3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Avg|Hold: 30/30
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 18.11 dB
Ref Level 20.00 dBm
Mkr2 26.155 75 GHz
-32.91 dBm
Start 1.00 GHz
#Res BW 100 kHz
#Video BW 300 kHz
Stop 26.50 GHz
Sweep ~2.44 s (30001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 2.479 85 GHz 5.076 dBm
2 N 1 f 26.155 75 GHz -32.91 dBm
Dec 18, 2024
7:39:00 PM
Frequency
Center Frequency
13.750000000 GHz
Settings
Span
25.5000000 GHz
Swept Span
Zero Span
Full Span
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
AUTO TUNE
CF Step
2.550000000 GHz
Auto
Man
Freq Offset
0 Hz
Local
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)

1.9 Duty Cycle

1.9.1 Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
DH5	Ant1	2402	20.26	20.26	1.0000	100.00	0.00	---	---
		2441	20.26	20.26	1.0000	100.00	0.00	---	---
		2480	30.00	30.00	1.0000	100.00	0.00	---	---
3DH5	Ant1	2402	30.00	30.00	1.0000	100.00	0.00	---	---
		2441	30.00	30.00	1.0000	100.00	0.00	---	---
		2480	30.00	30.00	1.0000	100.00	0.00	---	---

1.9.2 Test Graphs

DH5_Ant1_2402

DH5_Ant1_2441

DH5_Ant1_2480

3DH5_Ant1_2402

3DH5_Ant1_2441

3DH5_Ant1_2480

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Video
Trig Delay: -2.000 ms
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 18.11 dB
Ref Level 10.00 dBm
Center 2.480000000 GHz
Res BW 8 MHz
#Video BW 8.0 MHz
Span 0 Hz
Sweep 30.4 ms (8000 pts)
5 Marker Table
Mode
Trace
Scale
X
Y
Function
Function Width
Function Value
Dec 18, 2024
7:37:01 PM
Frequency
Settings
Center Frequency
2.480000000 GHz
Span
0.00000000 Hz
Swept Span
Zero Span
Full Span
Start Freq
2.480000000 GHz
Stop Freq
2.480000000 GHz
AUTO TUNE
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Local

1.10 Test Results of Radiated Spurious Emissions

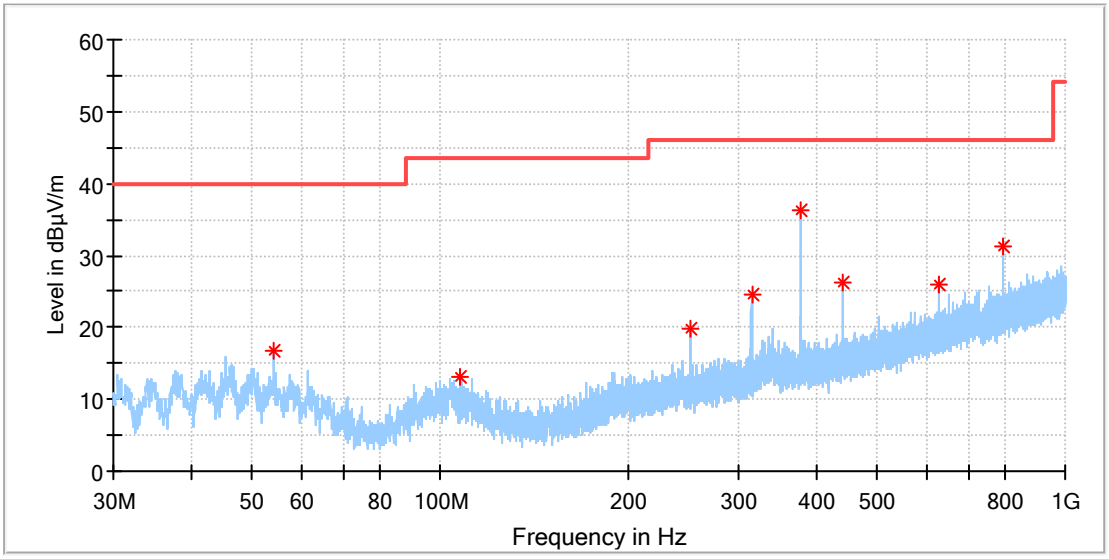
Note:
1) Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30 MHz - 1GHz(Worst case)

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
54.063462	16.76	40.00	23.24	100.0	H	78.0	-18.5
107.973077	13.00	43.50	30.50	100.0	H	183.0	-19.1
252.018077	19.74	46.00	26.26	100.0	H	328.0	-17.3
315.030769	24.63	46.00	21.37	100.0	H	60.0	-15.9
378.006154	36.26	46.00	9.74	100.0	H	217.0	-14.3
441.018846	26.15	46.00	19.85	100.0	H	233.0	-12.9
630.019615	25.85	46.00	20.15	100.0	H	0.0	-9.2
796.523846	31.26	46.00	14.74	100.0	H	127.0	-6.3

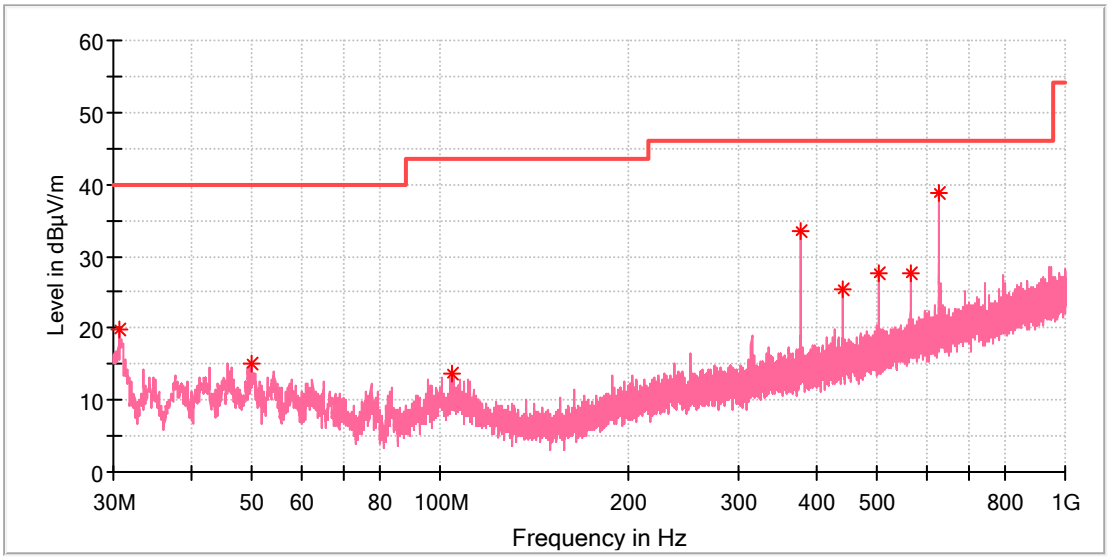
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
30.634231	19.77	40.00	20.23	100.0	V	57.0	-22.9
49.959615	14.99	40.00	25.01	100.0	V	0.0	-18.4
104.727308	13.78	43.50	29.72	100.0	V	293.0	-18.9
378.006154	33.55	46.00	12.45	100.0	V	96.0	-14.3
441.018846	25.38	46.00	20.62	100.0	V	185.0	-12.9
504.031539	27.55	46.00	18.46	100.0	V	177.0	-11.8
567.006923	27.75	46.00	18.25	100.0	V	152.0	-10.4
629.982308	38.85	46.00	7.15	100.0	V	152.0	-9.2

Final_Result

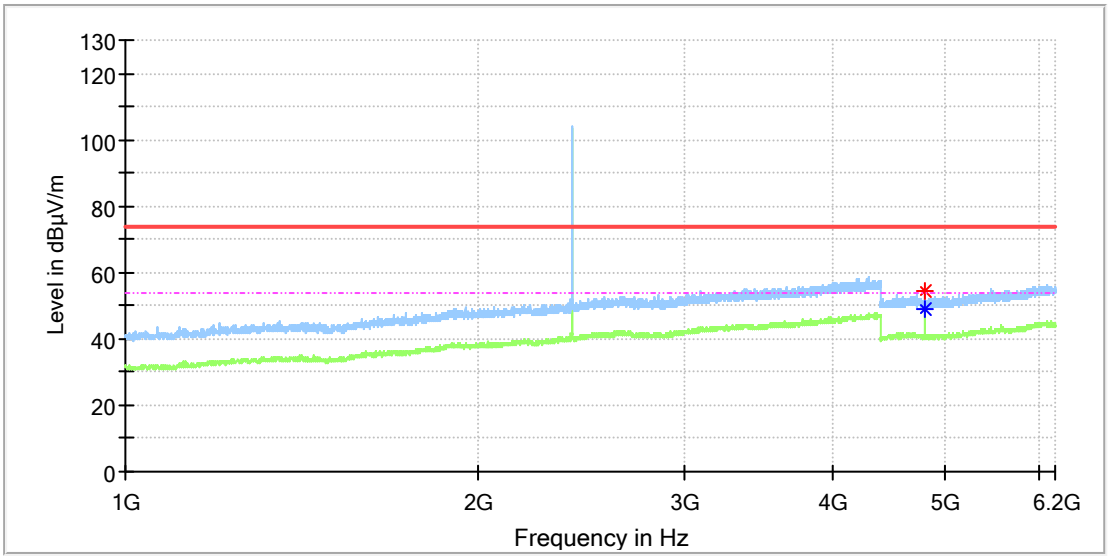
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Above 1G

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
4804.000000	54.44	---	74.00	19.56	150.0	H	81.0	13.3
4804.000000	---	49.04	54.00	4.97	150.0	H	81.0	13.3

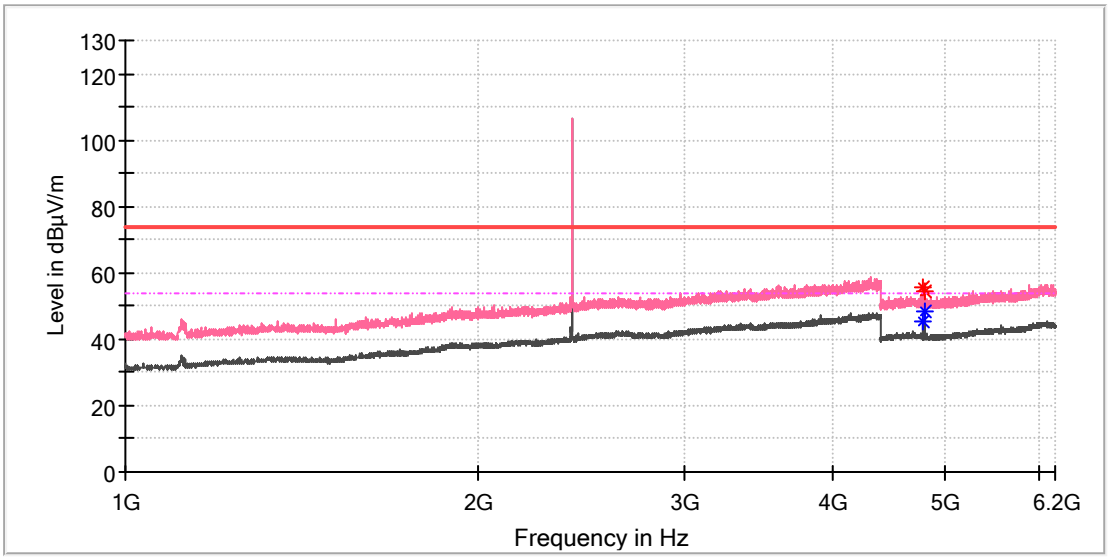
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
4778.500000	---	45.21	54.00	8.79	150.0	V	3.0	13.3
4778.500000	55.84	---	74.00	18.16	150.0	V	3.0	13.3
4803.500000	54.72	---	74.00	19.28	150.0	V	98.0	13.3
4804.000000	---	48.57	54.00	5.43	150.0	V	98.0	13.3

Final_Result

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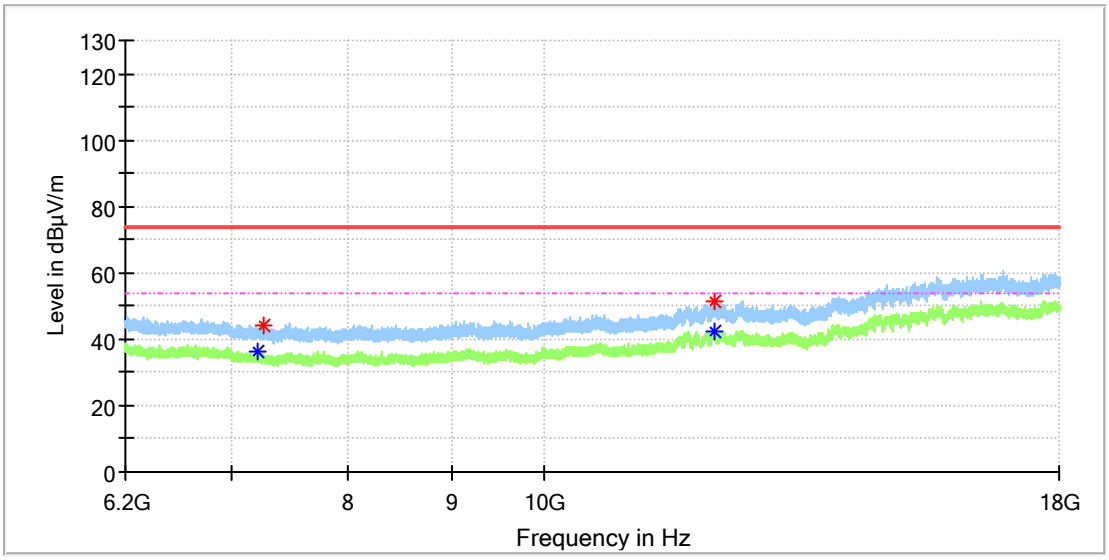
Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
7205.950000	---	36.39	54.00	17.61	150.0	H	73.0	8.8
7266.916667	43.99	---	74.00	30.01	150.0	H	3.0	8.5
12148.183333	51.12	---	74.00	22.88	150.0	H	28.0	16.7
12151.625000	---	42.36	54.00	11.64	150.0	H	50.0	16.6

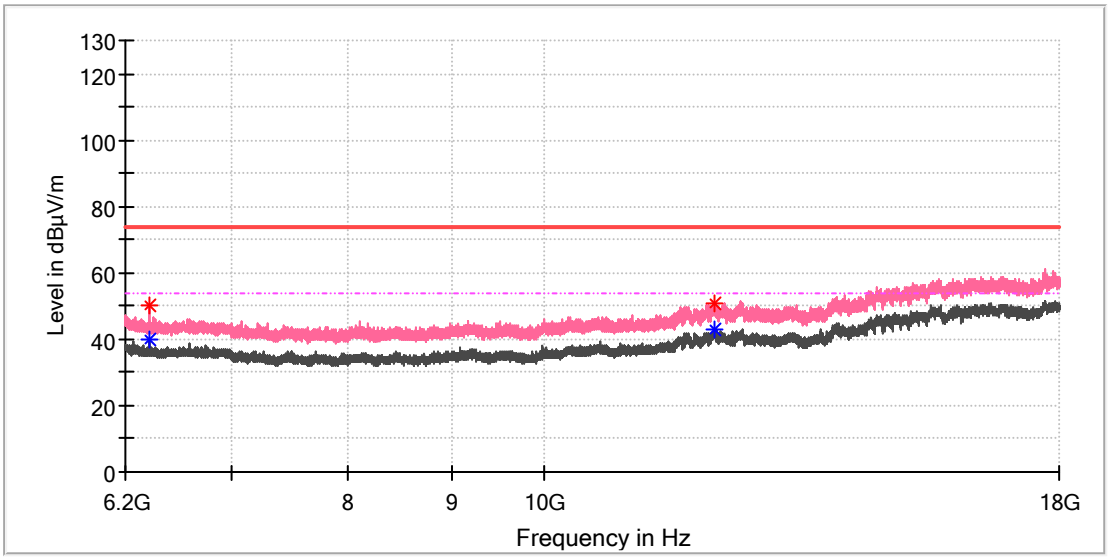
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
6372.083333	---	40.11	54.00	13.89	150.0	V	328.0	8.9
6372.083333	50.13	---	74.00	23.87	150.0	V	328.0	8.9
12139.333333	50.89	---	74.00	23.11	150.0	V	306.0	16.5
12141.791667	---	43.02	54.00	10.98	150.0	V	148.0	16.5

Final_Result

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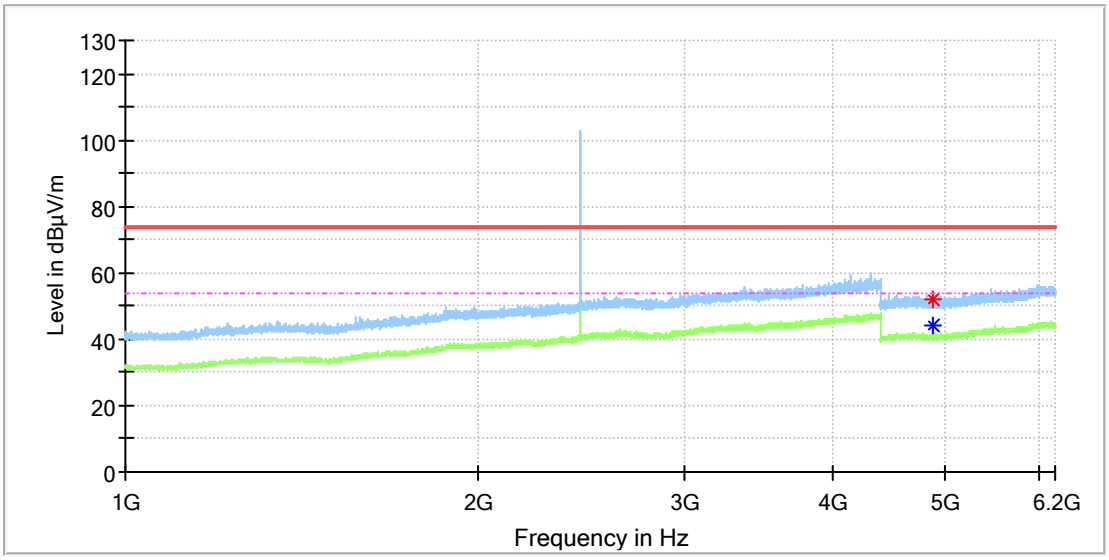
Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
4869.000000	52.29	---	74.00	21.71	150.0	H	111.0	13.3
4881.500000	---	43.89	54.00	10.11	150.0	H	80.0	13.3

Final_Result

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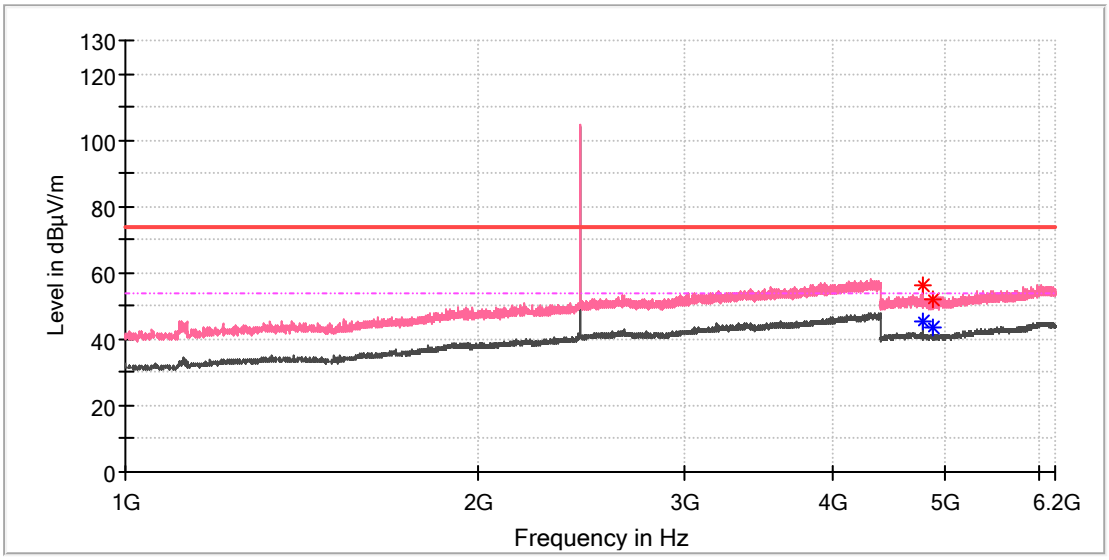
Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
4778.500000	56.22	---	74.00	17.78	150.0	V	343.0	13.3
4779.000000	---	45.60	54.00	8.40	150.0	V	4.0	13.3
4882.000000	51.72	---	74.00	22.28	150.0	V	15.0	13.3
4882.000000	---	43.33	54.00	10.67	150.0	V	15.0	13.3

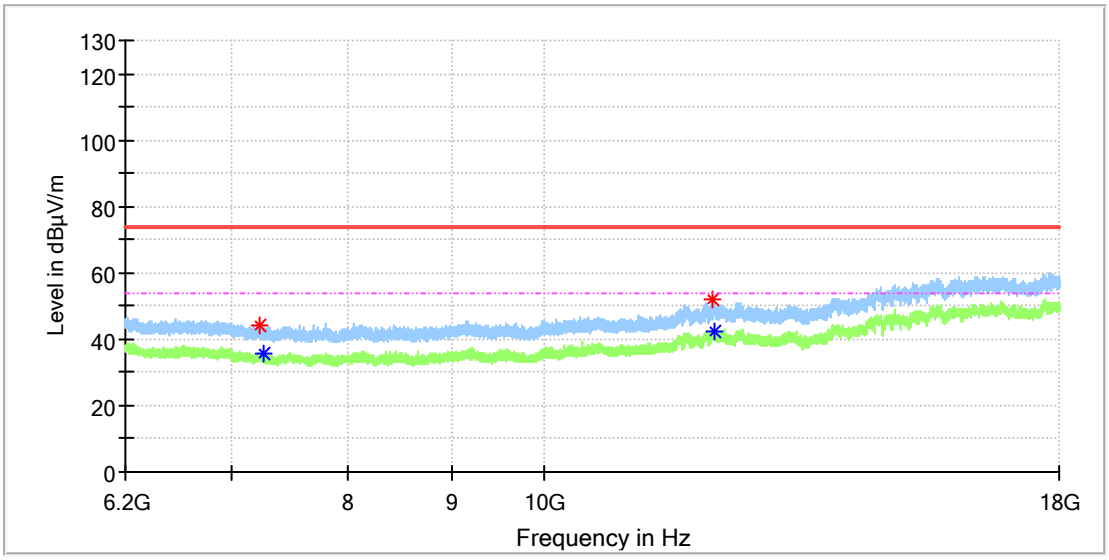
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
7228.566667	44.00	---	74.00	30.00	150.0	H	260.0	8.7
7257.083333	---	35.97	54.00	18.03	150.0	H	359.0	8.5
12128.025000	52.06	---	74.00	21.94	150.0	H	194.0	16.2
12132.941667	---	42.62	54.00	11.38	150.0	H	308.0	16.3

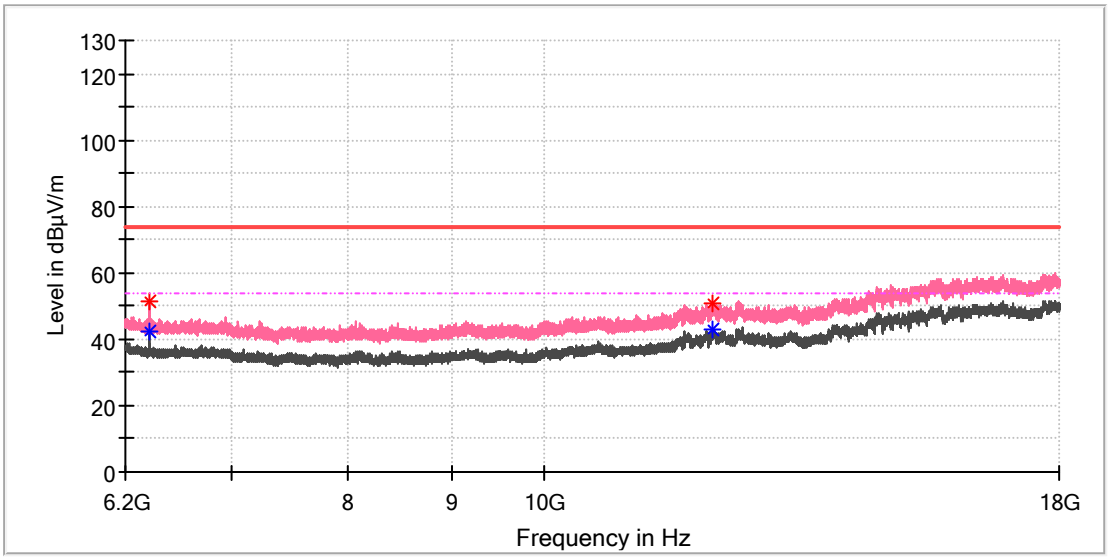
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
6372.083333	51.54	---	74.00	22.46	150.0	V	340.0	8.9
6372.083333	---	42.27	54.00	11.73	150.0	V	340.0	8.9
12112.783333	---	42.69	54.00	11.31	150.0	V	0.0	15.8
12130.975000	51.07	---	74.00	22.93	150.0	V	202.0	16.2

Final_Result

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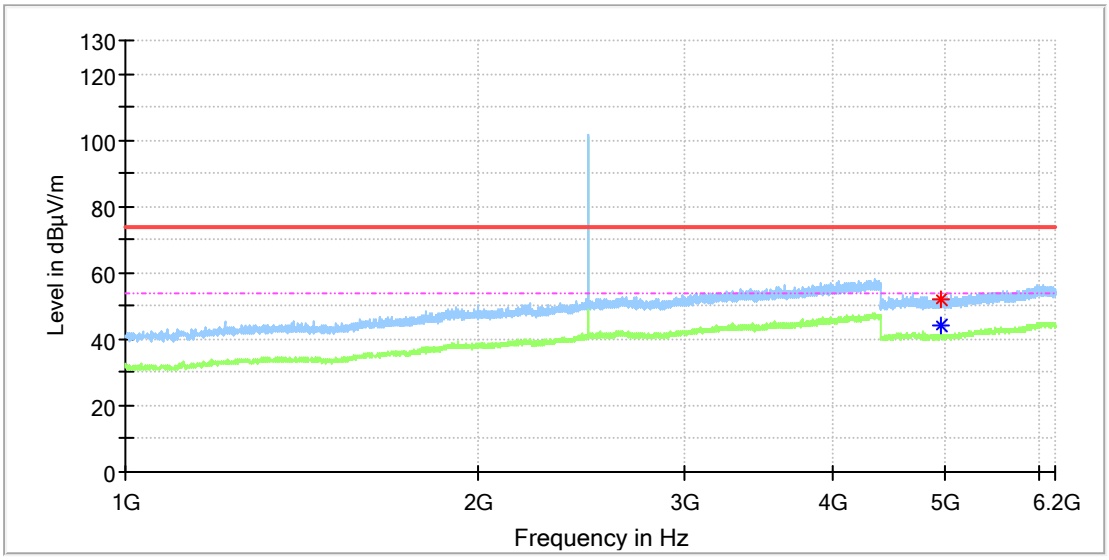
Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
4948.500000	52.23	---	74.00	21.77	150.0	H	226.0	13.3
4960.000000	---	44.12	54.00	9.88	150.0	H	77.0	13.3

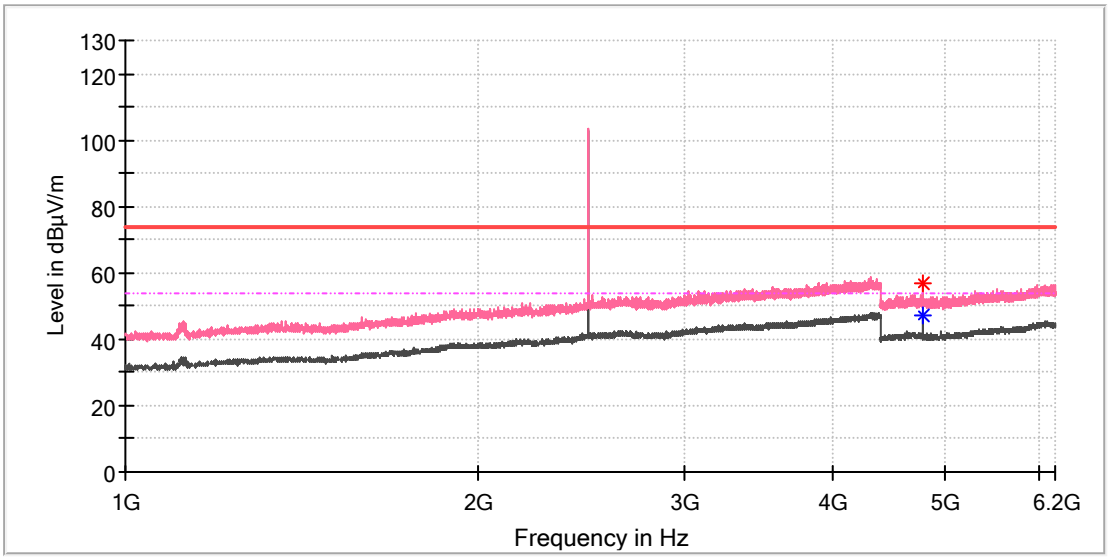
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
4779.000000	56.65	---	74.00	17.35	150.0	V	3.0	13.3
4779.000000	---	47.27	54.00	6.73	150.0	V	3.0	13.3

Final_Result

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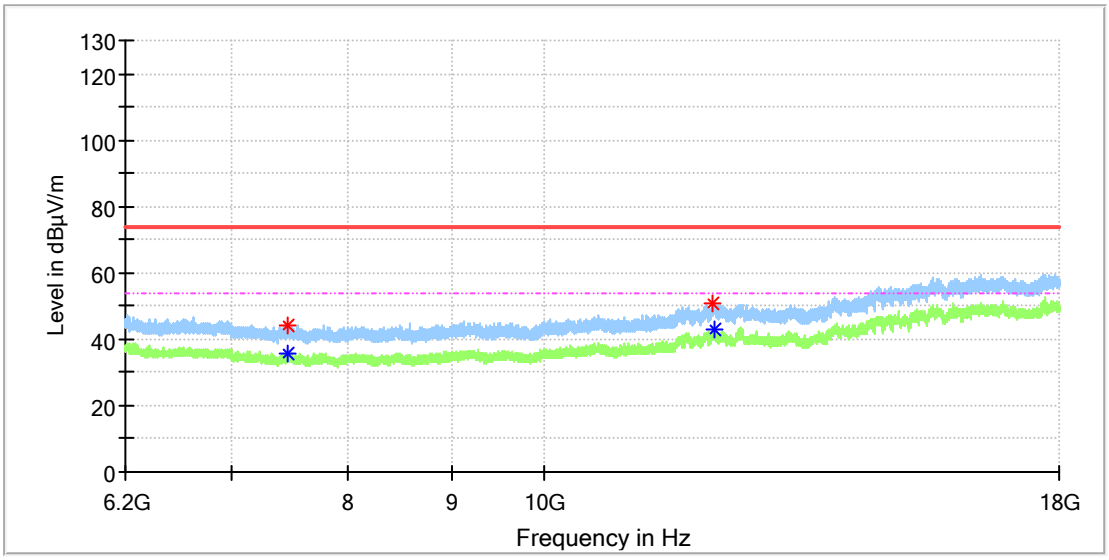
Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
7461.125000	---	35.77	54.00	18.23	150.0	H	142.0	8.5
7462.108333	44.15	---	74.00	29.85	150.0	H	314.0	8.6
12123.108333	51.04	---	74.00	22.96	150.0	H	177.0	16.0
12151.133333	---	42.74	54.00	11.26	150.0	H	76.0	16.7

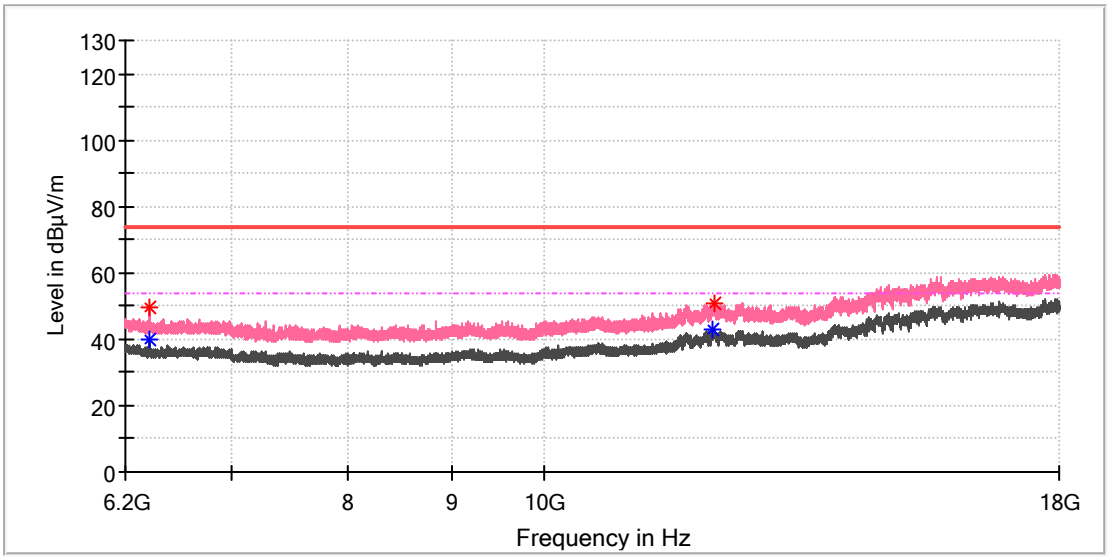
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
6371.100000	49.34	---	74.00	24.66	150.0	V	339.0	8.9
6371.100000	---	39.92	54.00	14.08	150.0	V	339.0	8.9
12131.466667	---	42.94	54.00	11.06	150.0	V	161.0	16.2
12152.116667	50.71	---	74.00	23.29	150.0	V	295.0	16.6

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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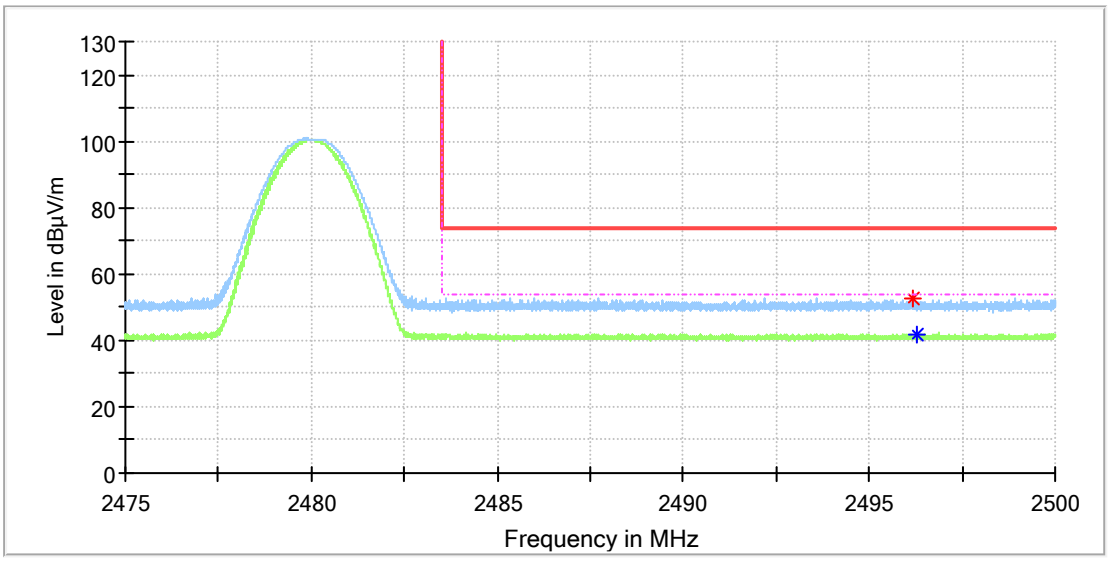
1.11 **Test Results of Radiated Emissions in Restricted Bands**

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
2496.165441	52.60	---	74.00	21.40	150.0	H	322.0	9.0
2496.294118	---	41.89	54.00	12.11	150.0	H	99.0	9.0

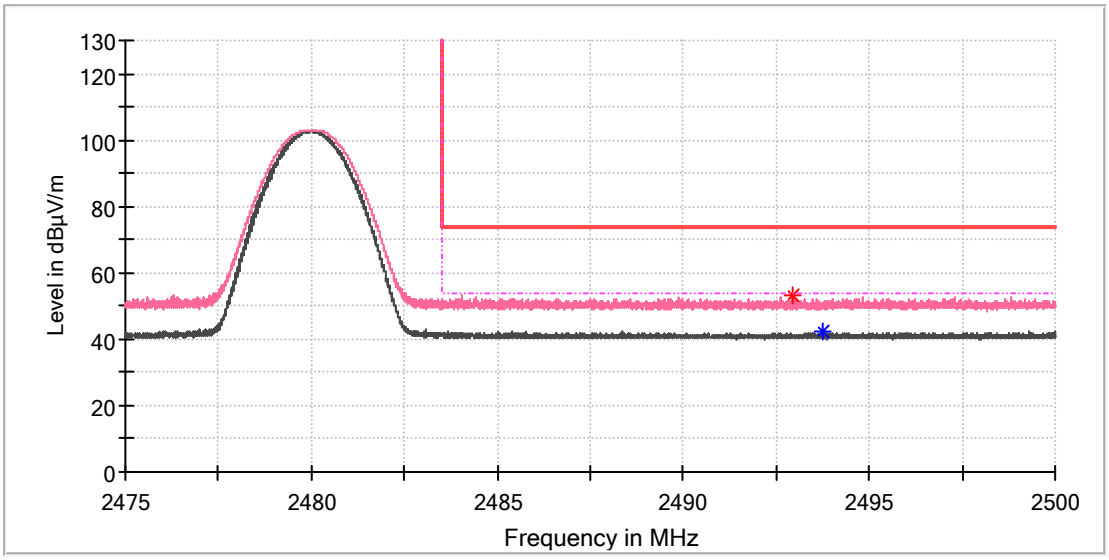
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
2492.922794	53.35	---	74.00	20.65	150.0	V	71.0	9.0
2493.735294	---	42.12	54.00	11.88	150.0	V	113.0	9.0

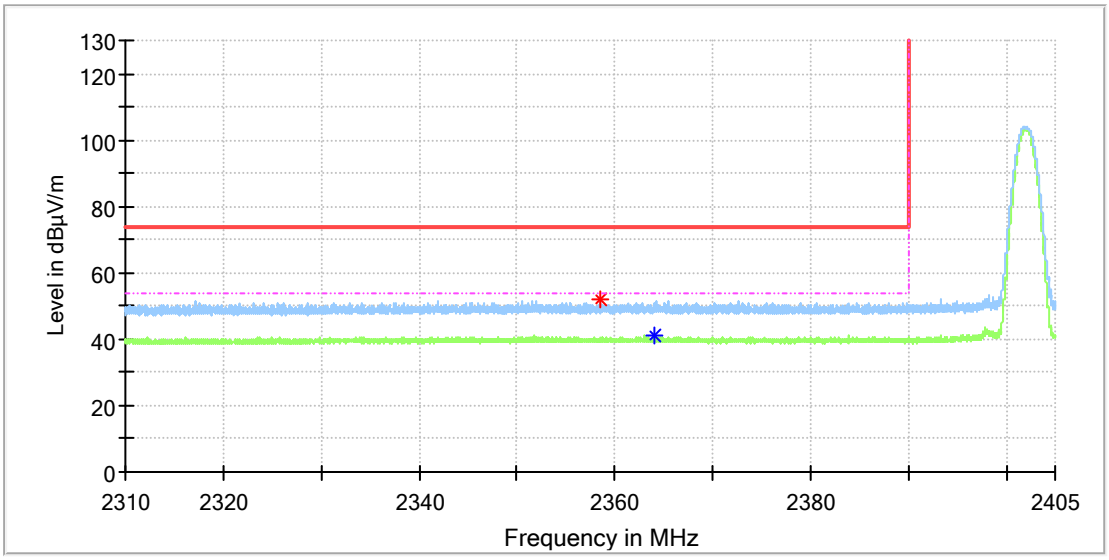
Final_Result

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

Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
2358.436030	51.86	---	74.00	22.14	150.0	H	67.0	8.5
2364.136030	---	41.23	54.00	12.77	150.0	H	284.0	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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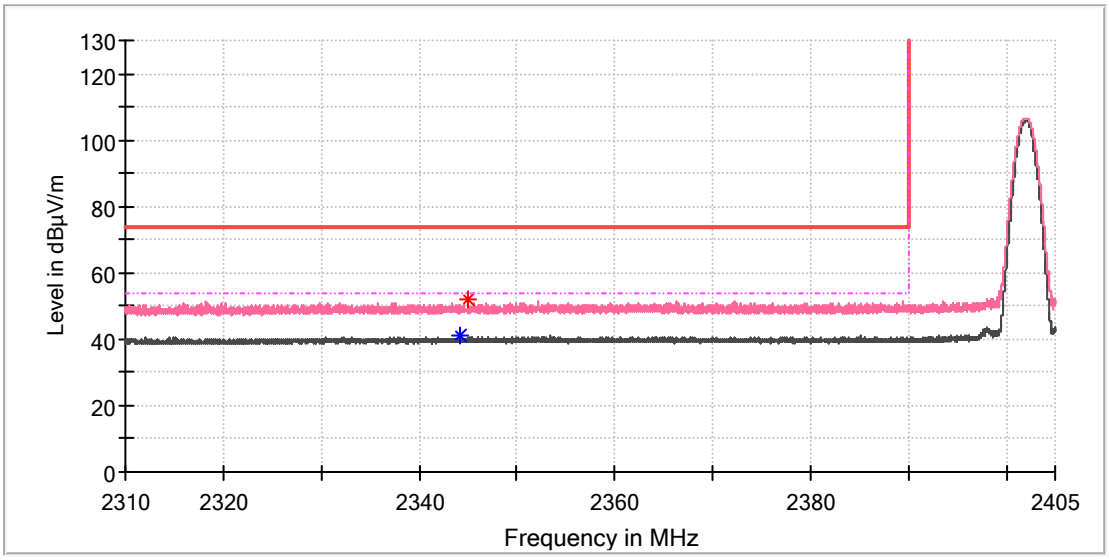
Test Report

EUT Information

EUT Name:	Multimedia player
Model:	MP-202S-00
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168485064/A003865536-002
Test Voltage::	DC 12V From DC Source
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)
2344.269853	---	40.93	54.00	13.07	150.0	V	306.0	8.4
2345.024265	52.22	---	74.00	21.78	150.0	V	48.0	8.4

Final_Result

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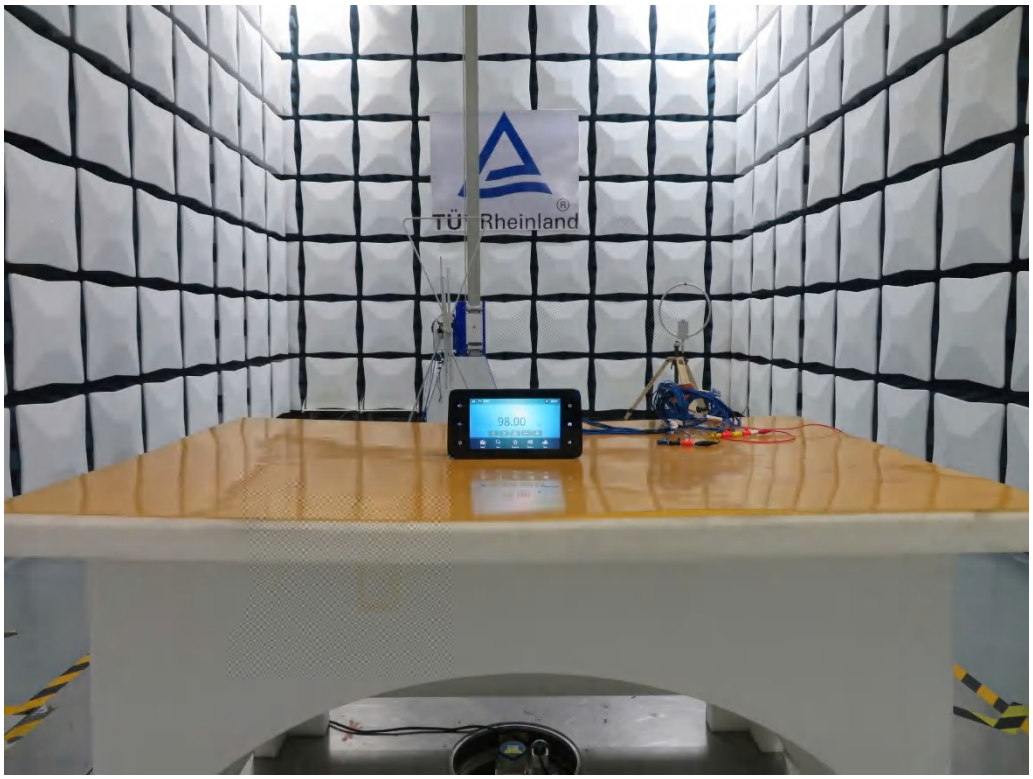
---End of appendix---

Appendix B: Photographs of the Test Set-Up

APPENDIX C: PHOTOGRAPHS OF THE TEST SET-UP 1

PHOTOGRAPH 1: SET-UP PHOTO FOR RADIATED SPURIOUS EMISSION, BELOW 1GHZ 2
PHOTOGRAPH 2: SET-UP PHOTO FOR RADIATED SPURIOUS EMISSION, ABOVE 1GHZ 2

Photograph 1: Set-up photo for Radiated Spurious Emission, below 1GHz



Photograph 2: Set-up photo for Radiated Spurious Emission, above 1GHz