

Test Report

Applicant : AMS SOLTECH
ZA DU CHEVALEMENT
Address : 8 RUE DES MOLETTES
59286 ROOST WARENDIN FRANCE
Product Name : CAR MONITOR
Brand Mark : AMS
Model : VICAM-AMS-MS10-MULTIMEDIA
Series model : KIT-MS10-MULTIMEDIA
Report Number : BLA-EMC-202601-A9803
FCC ID : 2BUJ3911H30
Date of Receipt : Jan. 22,2026
Date of Test : Jan. 22,2026 to Feb. 28,2026
Test Standard : 47 CFR Part 15, Subpart E 15.407
Test Result : Pass

Compiled by:

charlie

Review by:

Xavier

Approved by:

Blue Zheng

Issued Date:

Feb. 28,2026



BlueAsia Technical Services (Shenzhen) Co., Ltd

Address: No.41, South of Beihuan Road, Shangwu Community, Shiyan
Subdistrict, Bao'an District, Shenzhen, Guangdong, China



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Revise Record

Version No.	Date	Description
01	Feb. 28,2026	Original

1 General information

1.1 General information

Applicant	AMS SOLTECH
Address	ZA DU CHEVALEMENT 8 RUE DES MOLETTES 59286 ROOST WARENDIN FRANCE
Manufacturer	AMS SOLTECH
Address	ZA DU CHEVALEMENT 8 RUE DES MOLETTES 59286 ROOST WARENDIN FRANCE
Factory	AMS SOLTECH
Address	ZA DU CHEVALEMENT 8 RUE DES MOLETTES 59286 ROOST WARENDIN FRANCE

1.2 General description of EUT

Product Name	CAR MONITOR
Model no.	VICAM-AMS-MS10-MULTIMEDIA
Series model	KIT-MS10-MULTIMEDIA
Differences of Series model	Their electrical circuit design layout, components used and internal wiring are identical, Only the model name are different.
Operation Frequency	Band1: 5180MHz~5240MHz
Channel numbers	Band 1: 802.11n(HT20): 4,
Channel Spacing	802.11n(HT20): 20MHz,
Modulation Type	IEEE 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM)
Transmit Data Rate	IEEE 802.11n HT20(1X1): up to 72.2 Mbps
Antenna Type	FPC antenna
Antenna Gain	3.15dBi(Provided by the customer)
Function	☒ SISO ☐ 2x2 MIMO ☐ TPC
Power supply or adapter information	DC12V
Hardware version	T59-MP5-V202
Software version	20251208
Engineer sample no.	BLA-EMC-202410-A51

Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

2 Test summary

No.	Test item	FCC standard	Test Method (Clause)	Result
1	Antenna Requirement	§15.203	N/A	Pass
2	Conducted Emissions at AC Power Line (150kHz-30MHz)	§15.207	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 6.2	N/A
3	Frequency Stability	§15.407 (g)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 6.8	Pass
4	Maximum Conducted output power	§15.407 (a)	KDB 789033 D02 II E	Pass
5	Transmitter Power Control	§15.407 (h)(1)	KDB 789033 D02 II E	N/A
6	Peak Power spectrum density	§15.407 (a)	KDB 789033 D02 II F	Pass
7	Minimum 6 dB bandwidth (5.725-5.85 GHz band)	§15.407 (e)	KDB 789033 D02 II C 2	Pass
8	26dB Emission bandwidth	§15.407 (a)	KDB 789033 D02 II C 1	Pass
9	99% Bandwidth	N/A	KDB 789033 II D	Pass
10	Duty Cycle	KDB 789033 D02 II B 1	KDB 789033 II B 1	Pass
11	Conducted Band Edges Measurement	§15.407 (b)(4)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 11.13	Pass
12	Conducted spurious emissions	§15.407(b)	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 11.11	Pass
13	Radiated Emissions which fall in the restricted bands	§15.209 §15.407(b)	KDB 789033 D02 II G	Pass
14	Radiated Emissions	§15.209 §15.407(b)	KDB 789033 D02 II G	Pass
15	DFS: Channel Closing Transmission Time	§15.407((h)(2)	KDB 905462 D02 Clause 7.8.3	N/A
16	DFS: Non-occupancy period	§15.407((h)(2)	KDB 905462 D02 Clause 7.8.3	N/A

N/A: Not Applicable

3 Test Configuration

3.1 Test mode

Test Mode	Description
TX	Keep the EUT in continuously transmitting mode with modulation.(Duty cycle>98%)
RX	Keep the EUT in receiving mode
TX Low channel	Keep the EUT in continuously transmitting mode in low channel
TX middle channel	Keep the EUT in continuously transmitting mode in middle channel
TX high channel	Keep the EUT in continuously transmitting mode in high channel

Note 1: The EUT was configured to measure its highest possible emission and/or immunity level. The test modes were adapted according to the operation manual for use

3.2 Operation frequency and test channel

802.11n

Band \ Bandwidth	20(MHz)	
	Channel number	frequency (MHz)
U-NII-1	36	5180
	40	5200
	44	5220
	48	5240

3.3 Auxiliary equipment

Device Type	Manufacturer	Model Name	Serial No.	Remark
PC	lenovo	E46OC	N/A	From lab (No.BLA-ZC-BS-2022005)
Rechargeable battery	OUTDO	UTX7L-BS	N/A	From lab (No.BLA-ZC-PJ-2023005)

Note:“--” mean no any auxiliary device during testing.

3.4 Test environment

Temperature	Normal	25°C
	Low Extreme	-20°C
	High Extreme	+70°C
Voltage	Normal	DC 12V
	Low Extreme	DC 10.2V
	High Extreme	DC 13.8V

4 Laboratory information

4.1 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia Technical Services (Shenzhen) Co.,Ltd.
Address:	No.41, South of Beihuan Road, Shangwu Community, Shiyan Subdistrict, Bao'an District, Shenzhen, Guangdong, China
CNAS accredited No.:	L9788
A2LA Cert. No.:	5071.01
FCC Designation No.:	CN1252
Test Firm Registration Number:	923526
ISED CAB identifier No.:	CN0028
Company Number:	24243
Telephone:	+86-755-28682673
FAX:	+86-755-28682673

4.2 Measurement uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

Parameter	Expanded Uncertainty
Radiated Emission(9kHz-30MHz)	$\pm 4.34\text{dB}$
Radiated Emission(30Mz-1000MHz)	$\pm 4.24\text{dB}$
Radiated Emission(1GHz-18GHz)	$\pm 4.68\text{dB}$
Radiated Emission(18GHz-40GHz)	$\pm 4.78\text{dB}$
AC Power Line Conducted Emission(150kHz-30MHz)	$\pm 3.45\text{dB}$
Occupied Channel Bandwidth	$\pm 5\%$
RF output power, conducted	$\pm 1.5\text{ dB}$
Power Spectral Density, conducted	$\pm 3.0\text{ dB}$
Unwanted Emissions, conducted	$\pm 3.0\text{ dB}$
Temperature	$\pm 3\text{ }^{\circ}\text{C}$
Supply voltages	$\pm 3\%$
Time	$\pm 5\%$

5 Test equipment

Radiated Spurious Emissions (Below 1GHz)

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-002-01	Anechoic chamber	9*6*6 chamber	SKET	N/A	2024/3/27	2027/3/26
BLA-EMC-002-02	Control room	966 control room	SKET	N/A	2024/3/27	2027/3/26
BLA-EMC-009	EMI receiver	ESR7	R&S	101199	2025/08/05	2026/08/04
BLA-EMC-043	Loop antenna	FMZB1519B	Schwarzbeck	00102	2024/06/29	2026/06/28
BLA-EMC-065	Broadband antenna	VULB9168	Schwarzbeck	01065P	2024/06/29	2026/06/27
BLA-XC-01	Coaxial Cable	N/A	BlueAsia	V01	N/A	N/A
BLA-XC-02	Coaxial Cable	N/A	BlueAsia	V02	N/A	N/A

Radiated Spurious Emissions (Above 1GHz)

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-001-01	Anechoic chamber	9*6*6 chamber	SKET	N/A	2023/11/16	2026/11/15
BLA-EMC-001-02	Control Room	966 control room	SKET	N/A	2023/11/16	2026/11/15
BLA-EMC-008	Spectrum	FSP40	R&S	100817	2025/08/05	2026/08/04
BLA-EMC-013	Horn Antenna	BBHA9120D	Schwarzbeck	01892	2024/06/29	2026/06/28
BLA-EMC-014	Amplifier	PA_000318G-45	SKET	PA2018043003	2025/08/05	2026/08/04
BLA-EMC-046	Filter bank	2.4G/5G Filter bank	SKET	N/A	2025/06/09	2026/06/08
BLA-EMC-061	Receiver	ESPI7	R&S	101477	2025/06/09	2026/06/08
BLA-EMC-066	Amplifier	LNPA_30M01G-30	SKET	SK2021060801	2025/06/09	2026/06/08
BLA-EMC-086	Amplifier	LNPA_18G40G-50dB	SKET	SK2022071301	2025/06/09	2026/06/08
BLA-EMC-087	Horn Antenna	BBHA 9170	Schwarzbeck	1106	2024/06/29	2026/06/28
BLA-XC-03	Coaxial Cable	N/A	BlueAsia	V03	N/A	N/A
BLA-XC-04	Coaxial Cable	N/A	BlueAsia	V04	N/A	N/A

RF conducted

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-003-003	Shield room	5*3*3	SKET	N/A	2023/11/16	2026/11/15
BLA-EMC-016	Signal Generator	N5182A	Agilent	MY52420567	2025/06/09	2026/06/08
BLA-EMC-038	Spectrum	N9020A	Agilent	MY49100060	2025/08/05	2026/08/04
BLA-EMC-042	Power sensor	RPR3006 W	DARE	14I00889SN042	2025/08/05	2026/08/04
BLA-EMC-044	Radio communication tester	CMW500	R&S	132429	2025/08/05	2026/08/04
BLA-EMC-064	Signal Generator	N5182B	KEYSIGHT	MY58108892	2025/06/09	2026/06/08
BLA-EMC-079	Spectrum	N9020A	Agilent	MY54420161	2025/08/05	2026/08/04
BLA-EMC-088	Audio Analyzer	ATS-1	Audio Precision	ATS141094	2025/06/09	2026/06/08
BLA-EMC-100	Digital Radio Tester	RWC2010	Redwoodcom m	RWC201024903 04	2025/06/09	2026/06/08

Test Software Record

Software No.	Software Name	Manufacture	Software version	Test site
BLA-EMC-S001	EZ-EMC	EZ	EEMC-3A1+	RE
BLA-EMC-S002	EZ-EMC	EZ	EEMC-3A1+	RE
BLA-EMC-S010	MTS 8310	MW	2.0.0.0	RF

6 Test result

6.1 Antenna requirement

Test Standard	47 CFR Part 15, Subpart C 15.203
Test Method	N/A

6.1.1 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of a so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT antenna:

The antenna is FPC antenna. The best case gain of the antenna is 3.15 dBi.

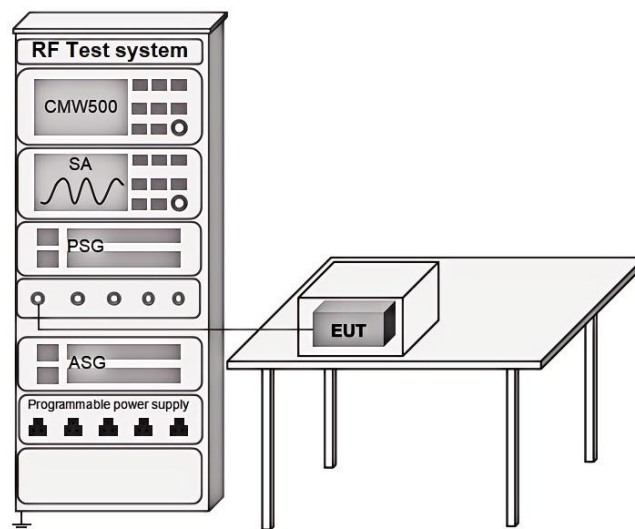
6.2 Frequency Stability

Test Standard	47 CFR Part 15, Subpart E 15.407(g)
Test Method	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 6.8
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.2.1 Limit

The frequency tolerance shall be maintained within the band of operation frequency over a temperature variation of 0 degrees to 35 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

6.2.2 Test setup



6.2.3 Test data

Pass: Please refer to appendix A for details

6.3 Maximum conducted output Power

Test Standard	47 CFR Part 15, Subpart E 15.407 (a)
Test Method	KDB 789033 D02 II E
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

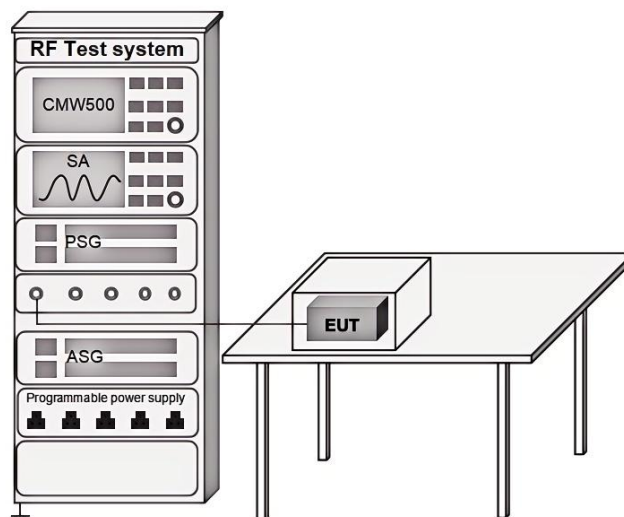
6.3.1 Limit

Frequency band(MHz)	Limit
5150-5250	≤1W(30dBm) for master device
	≤250mW(24dBm) for client device
5250-5350	≤250mW(24dBm) for client device or 11dBm+10logB*
5470-5725	≤250mW(24dBm) for client device or 11dBm+10logB*
5725-5850	≤1W(30dBm)

Remark:* Where B is the 26dB emission bandwidth in MHz.

The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage.

6.3.2 Test setup



6.3.3 Test data

Pass: Please refer to appendix A for details

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6.4 Peak power spectrum density

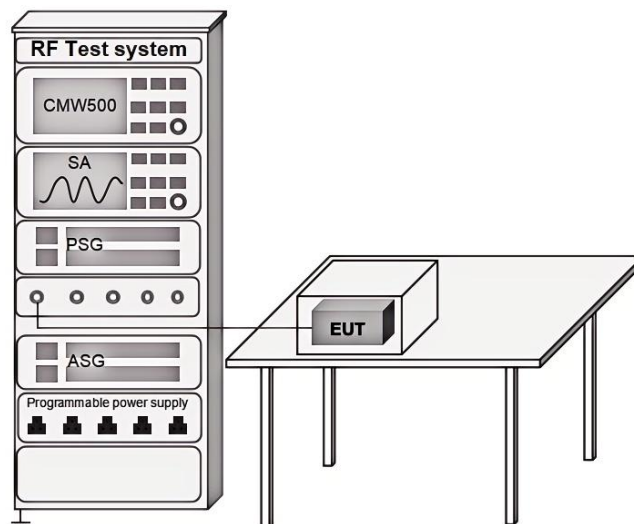
Test Standard	47 CFR Part 15, Subpart E 15.407 (a)
Test Method	KDB 789033 D02 II F
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.4.1 Limit

Frequency band(MHz)	Limit
5150-5250	≤17dBm in 1MHz for master device
	≤11dBm in 1MHz for client device
5250-5350	≤11dBm in 1MHz for client device
5470-5725	≤11dBm in 1MHz for client device
5725-5850	≤30dBm in 500 kHz

Remark: The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test.

6.4.2 Test setup



6.4.3 Test data

Pass: Please refer to appendix A for details

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Report version : V1.3

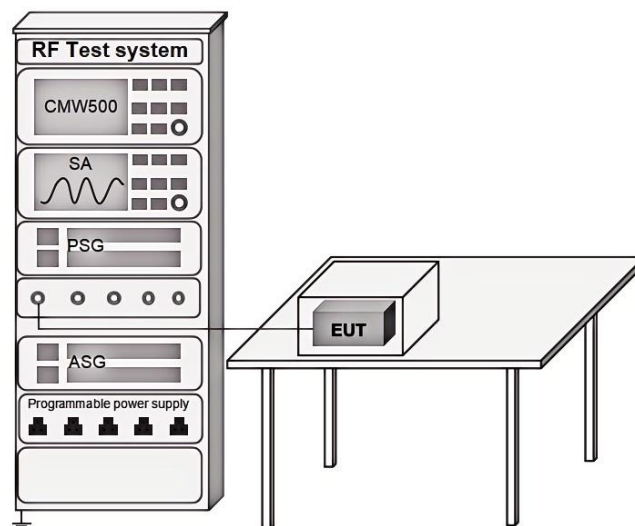
6.5 Minimum 6dB bandwidth (5.725-5.85 GHz band)

Test Standard	47 CFR Part 15, Subpart E 15.407 (e)
Test Method	KDB 789033 D02 II C 2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.5.1 Limit

≥500 kHz

6.5.2 Test setup



6.5.3 Test data

Pass: Please refer to appendix A for details

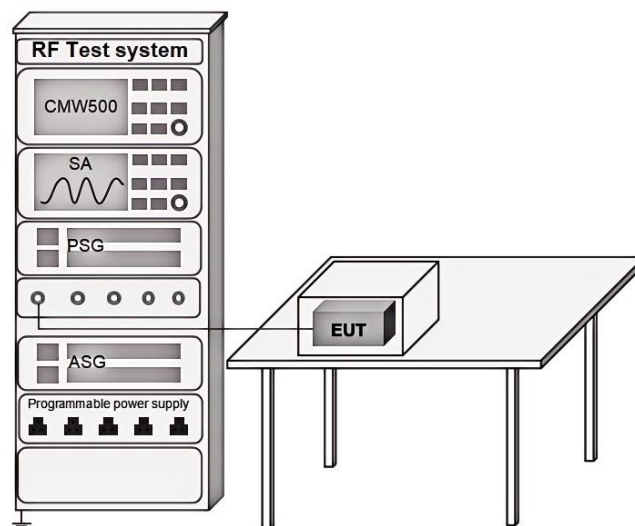
6.6 26dB Emission bandwidth

Test Standard	47 CFR Part 15, Subpart E 15.407 (a)
Test Method	KDB 789033 D02 II C 1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.6.1 Limit

N/A

6.6.2 Test setup



6.6.3 Test data

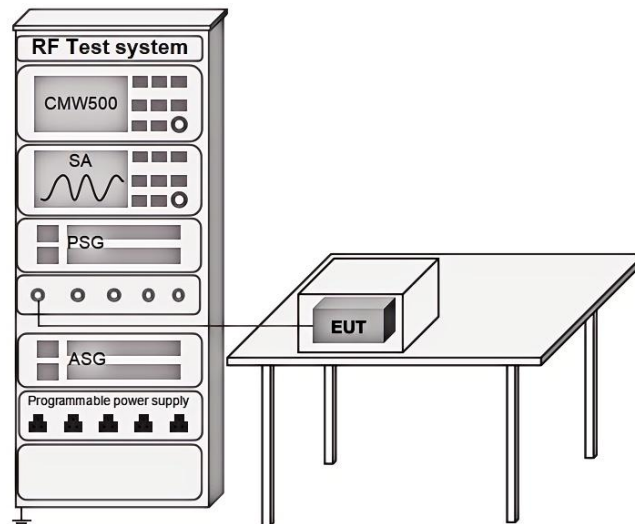
Pass: Please refer to appendix A for details

6.7 99% Bandwidth

Test Standard	N/A
Test Method	KDB 789033 II D
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.7.1 Limit

6.7.2 Test setup



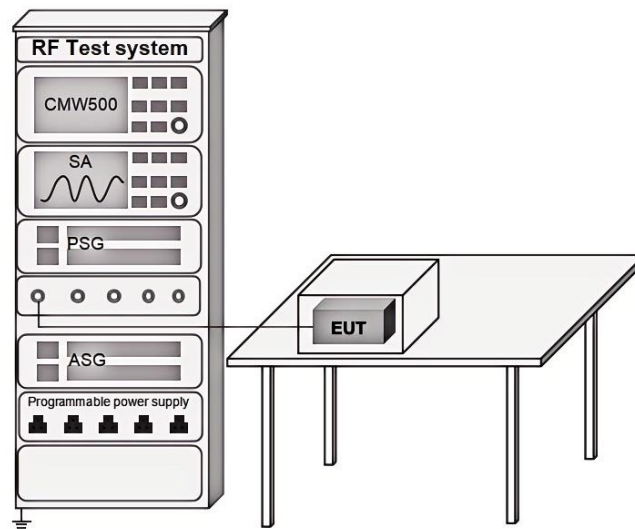
6.7.3 Test data

Pass: Please refer to appendix A for details

6.8 Duty Cycle

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 II B 1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.8.1 Test setup



6.8.2 Test data

Pass: Please refer to appendix A for details

6.9 Conducted Band Edges Measurement

Test Standard	47 CFR Part 15, Subpart C 15.407(b)(4)
Test Method	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 11.13
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.9.1 Limit

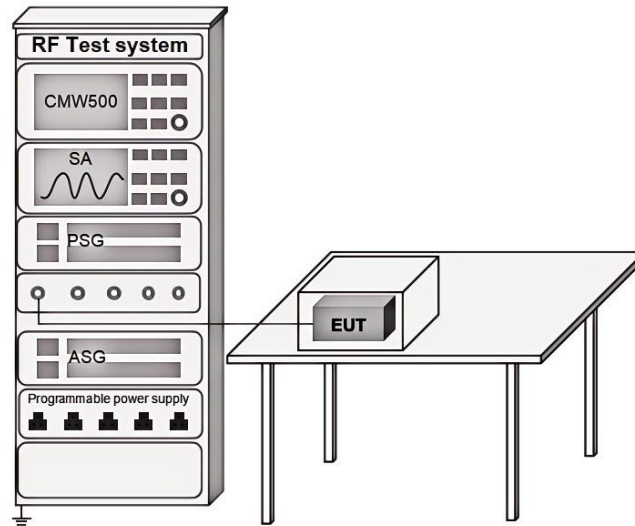
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.

Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

6.9.2 Test setup



6.9.3 Test data

Pass: Please refer to appendix A for details

6.10 Conducted spurious emissions

Test Standard	47 CFR Part 15, Subpart C 15.407
Test Method	ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024 + Errata to C63.10a-2024 Clause 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.10.1 Limit

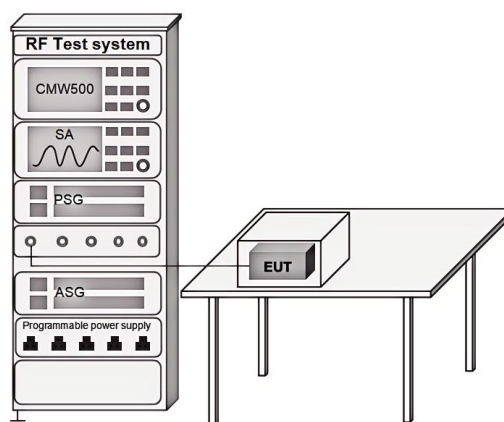
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20dB.

Attenuation below the general limits specified in §15.209(a) is not required.

In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

6.10.2 Test setup



6.10.3 Test data

Pass: Please refer to appendix A for details

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6.11 Radiated emissions

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 D02 II G
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

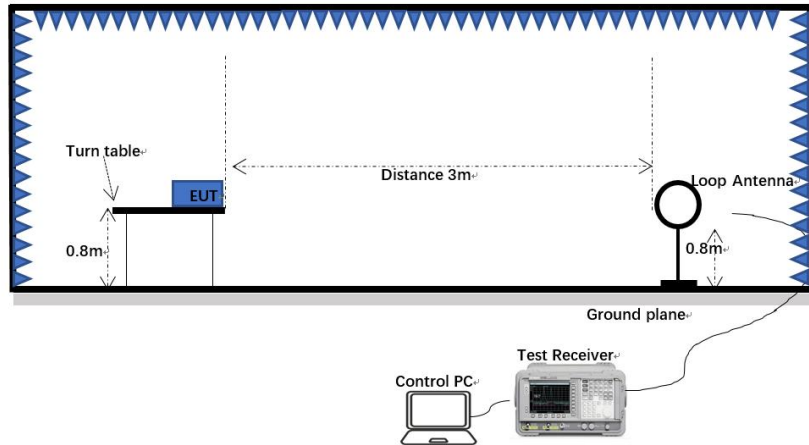
6.11.1 Limit

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

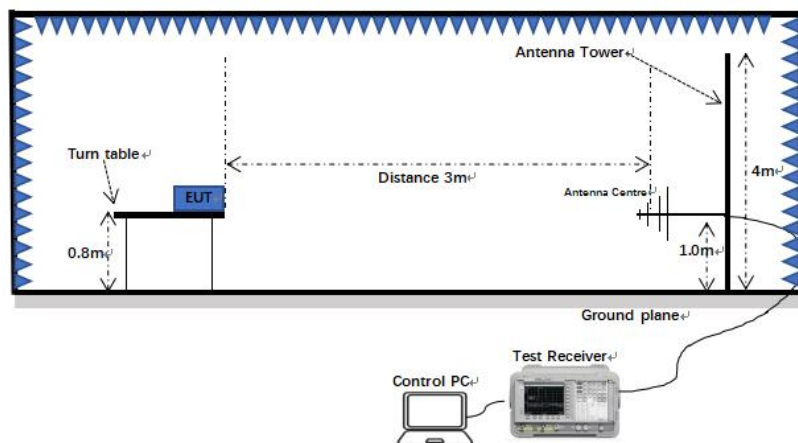
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

6.11.2 Test setup

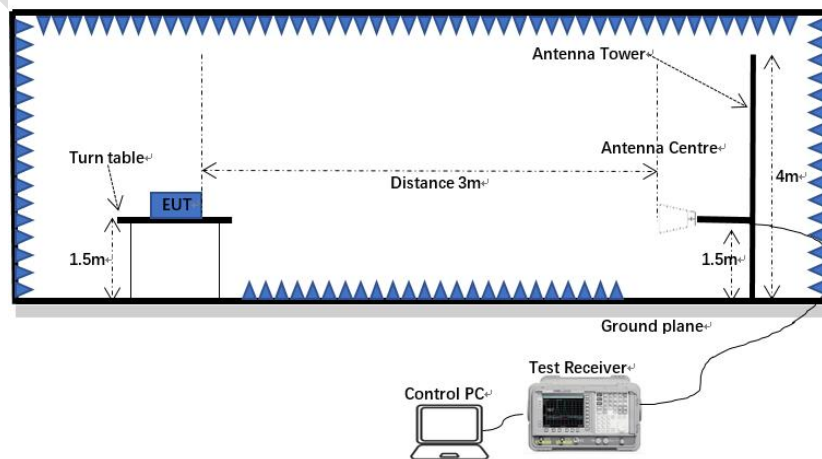
Below 1GHz:



30MHz-1GHz:



Above 1GHz:



6.11.3 Procedure

- a) For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d) The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h) Test the EUT in the lowest channel, the middle channel, the highest channel.
- i) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j) Repeat above procedures until all frequencies measured was complete.

Note 1: Scan from 9 kHz to 40GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. Fundamental frequency is blocked by filter, and only spurious emission is shown.

Note 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

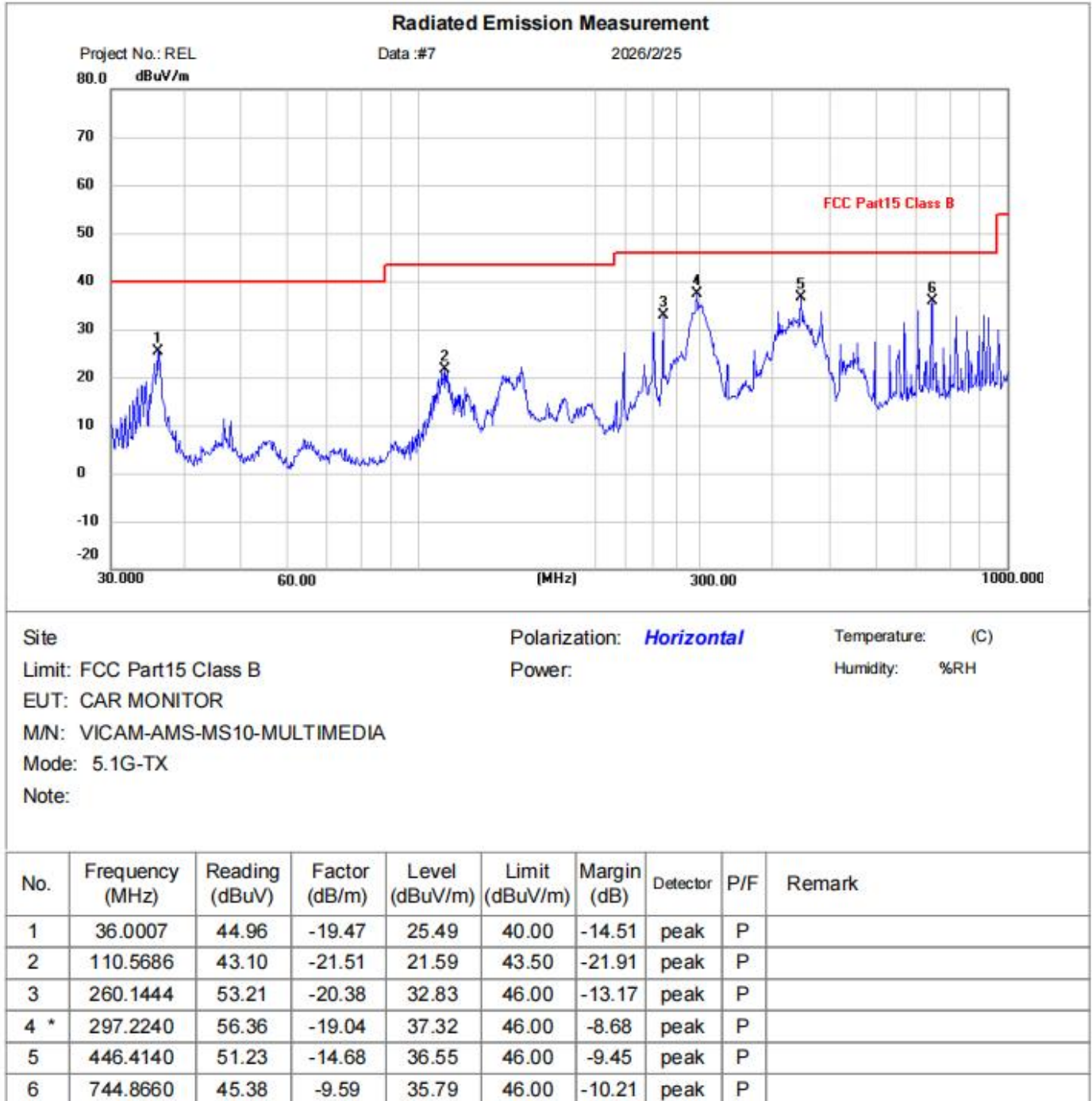
Note 3: The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

$$\text{Level (dBuV)} = \text{Reading (dBuV)} + \text{Factor (dB/m)}$$

6.11.4 Test data

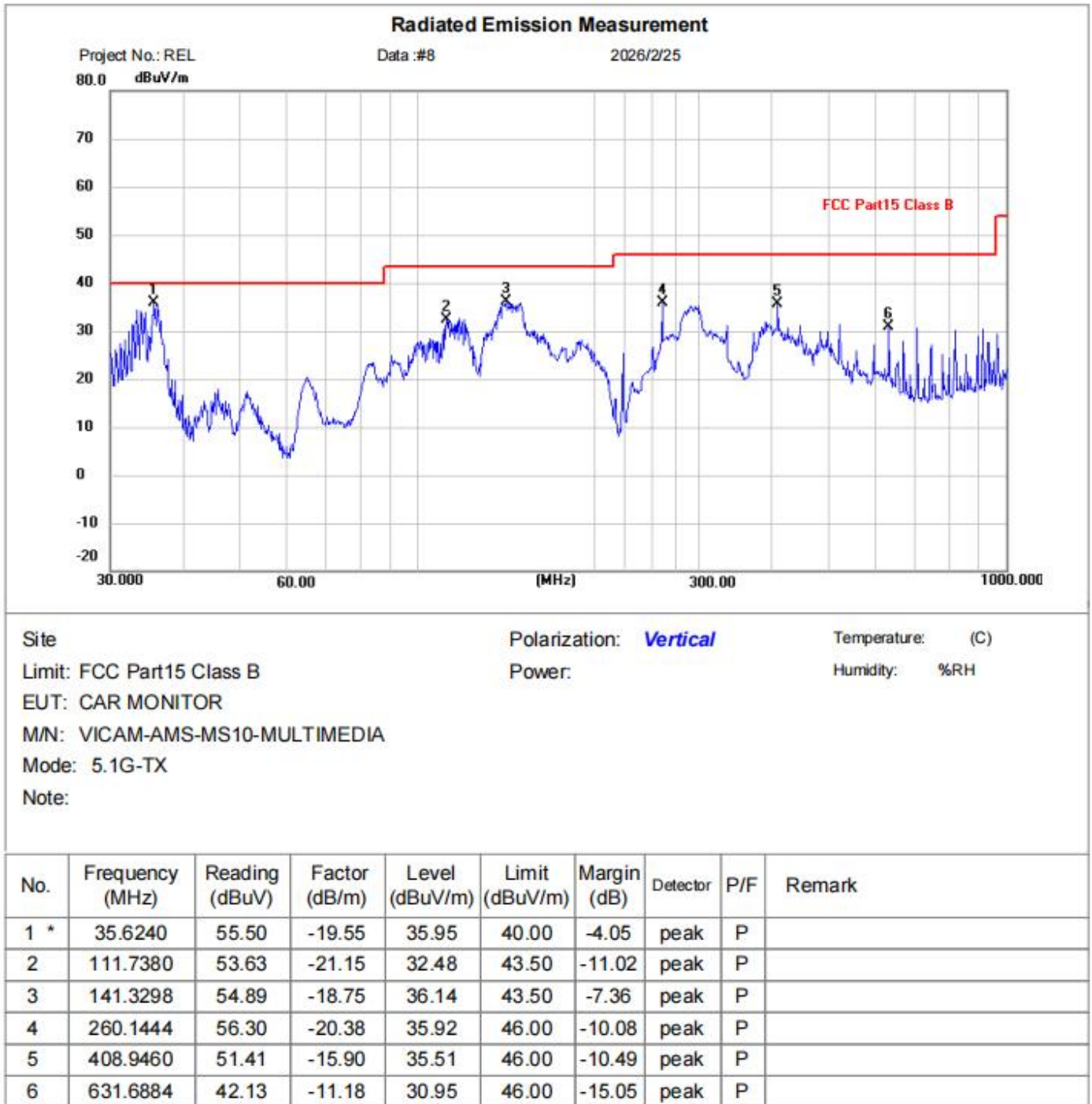
Below 1GHz:

[Test mode: Band1 TX low channel]; [Polarity: Horizontal] ;[Power: DC12V]



Test Result: Pass

[Test mode: Band1 TX low channel]; [Polarity: Vertical] ;[Power: DC12V]

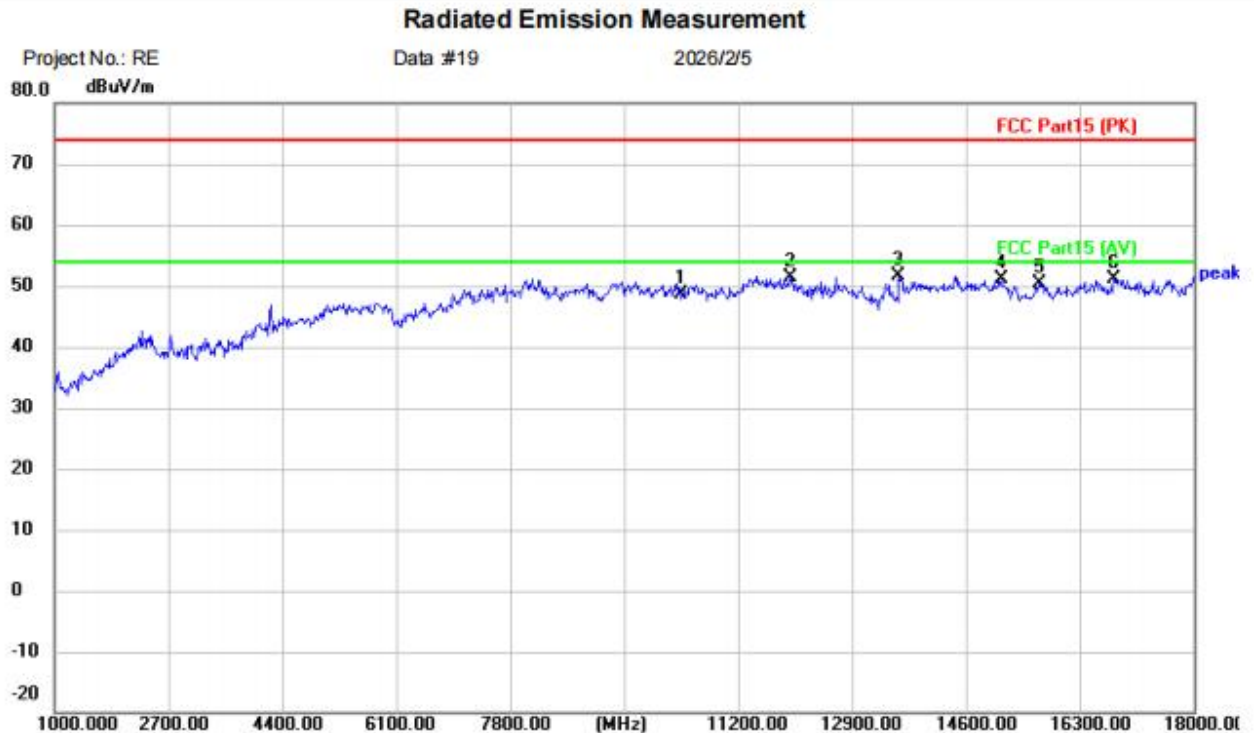


Test Result: Pass

Remark: During the test, pre-scan the (Band1)802.11n20 mode, and found the 802.11n20 mode which it is worse case, only the worse case lowest channel for Band1/802.11 n20 was recorded in the report.

Above 1GHz:

[Test mode:Band1 TX low channel]; [Polarity: Horizontal] ;[Power: DC12V]



Site Polarization: **Horizontal** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: CAR MONITOR

M/N: VICAM-AMS-MS10-MULTIMEDIA

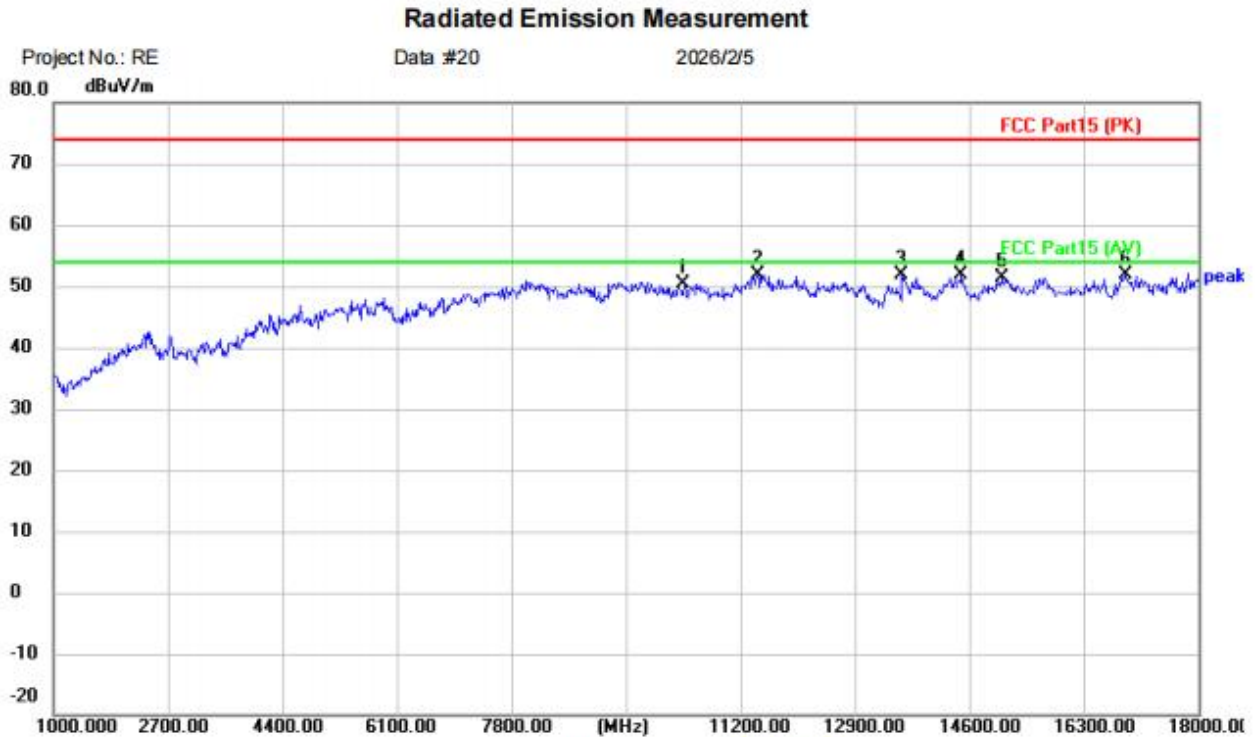
Mode: 5.1G-TX-5180

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10360.00	35.17	13.53	48.70	74.00	-25.30	peak	
2		11982.00	37.24	14.14	51.38	74.00	-22.62	peak	
3	*	13597.00	38.78	12.90	51.68	74.00	-22.32	peak	
4		15127.00	41.63	9.47	51.10	74.00	-22.90	peak	
5		15688.00	40.93	9.44	50.37	74.00	-23.63	peak	
6		16810.00	40.78	10.26	51.04	74.00	-22.96	peak	

Test Result: Pass

[Test mode:Band1 TX low channel]; [Polarity: Vertical] ;[Power: DC12V]



Site: Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: CAR MONITOR

M/N: VICAM-AMS-MS10-MULTIMEDIA

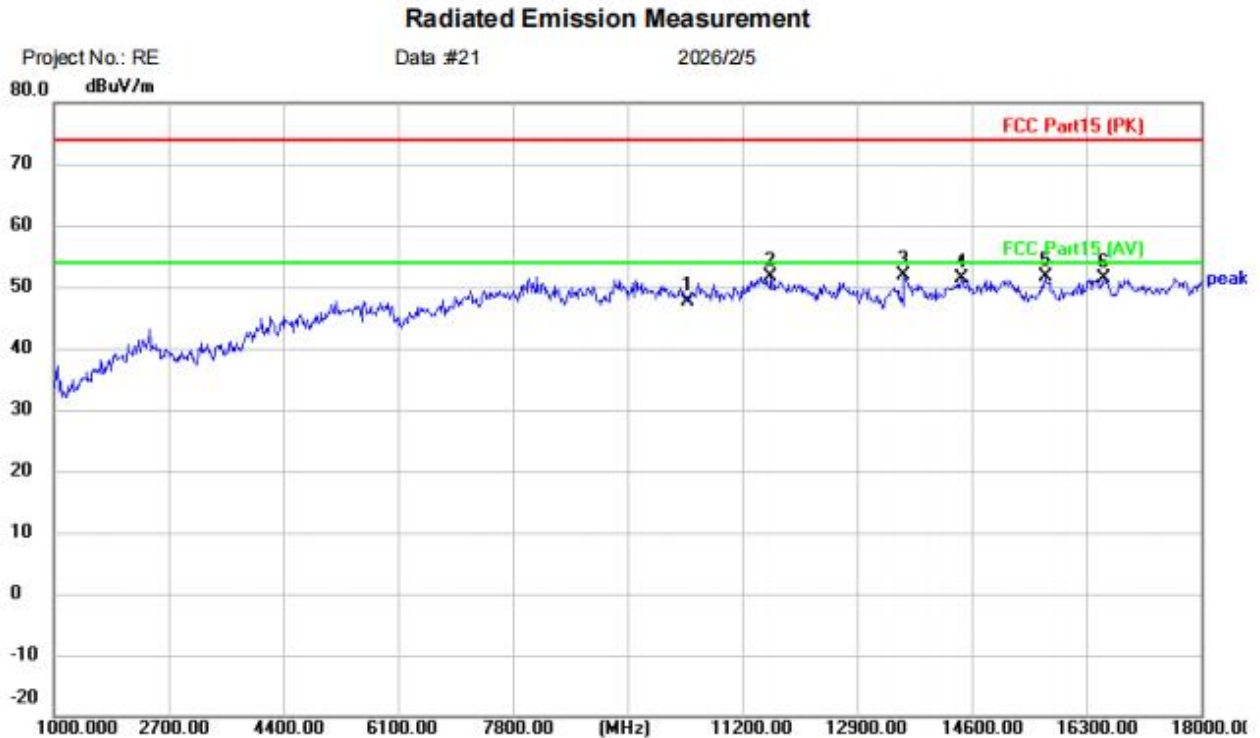
Mode: 5.1G-TX-5180

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10360.00	36.75	13.53	50.28	74.00	-23.72	peak	
2		11455.00	37.28	14.60	51.88	74.00	-22.12	peak	
3		13597.00	38.86	12.90	51.76	74.00	-22.24	peak	
4	*	14481.00	41.42	10.51	51.93	74.00	-22.07	peak	
5		15076.00	41.86	9.51	51.37	74.00	-22.63	peak	
6		16912.00	41.49	10.28	51.77	74.00	-22.23	peak	

Test Result: Pass

[Test mode:Band1 TX middle channel]; [Polarity: Horizontal] ;[Power: DC12V]

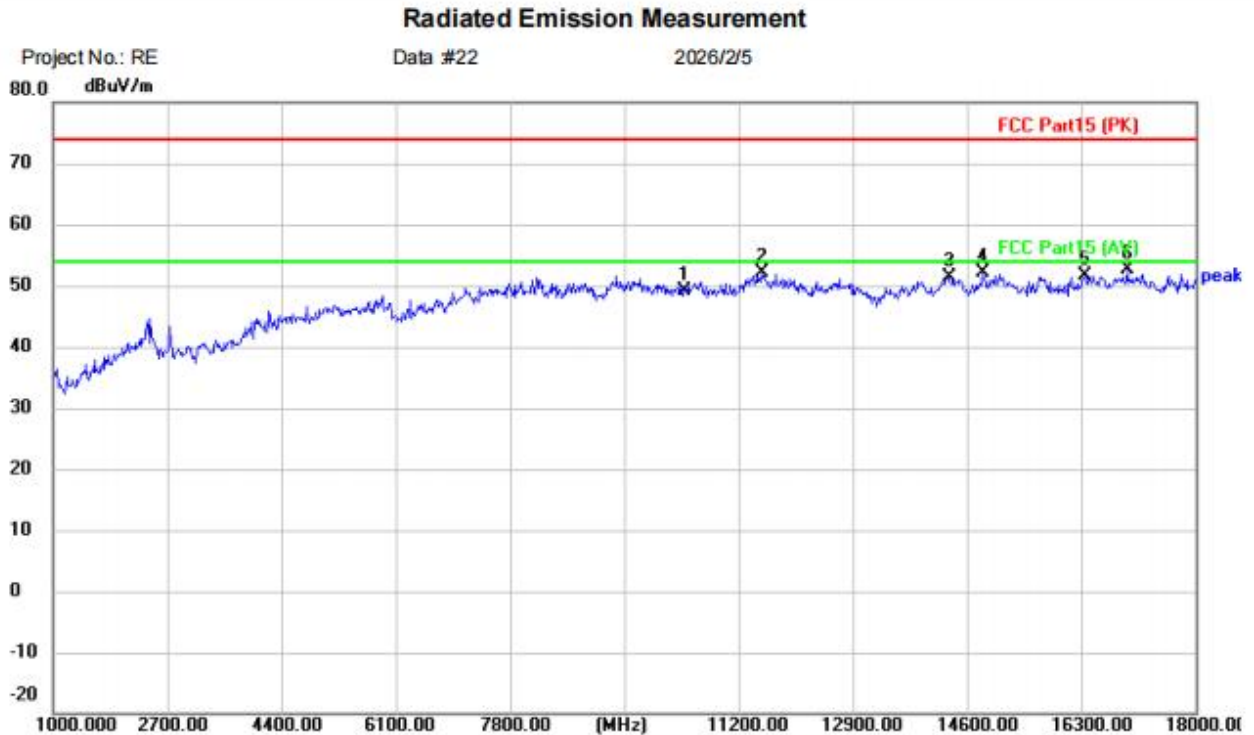


Site Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: CAR MONITOR
M/N: VICAM-AMS-MS10-MULTIMEDIA
Mode: 5.1G-TX-5200
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10400.00	34.18	13.51	47.69	74.00	-26.31	peak	
2		11625.00	37.26	14.45	51.71	74.00	-22.29	peak	
3	*	13597.00	38.88	12.90	51.78	74.00	-22.22	peak	
4		14447.00	40.68	10.59	51.27	74.00	-22.73	peak	
5		15688.00	42.08	9.44	51.52	74.00	-22.48	peak	
6		16555.00	40.61	10.74	51.35	74.00	-22.65	peak	

Test Result: Pass

[Test mode:Band1 TX middle channel]; [Polarity: Vertical] ;[Power: DC12V]



Site Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: CAR MONITOR

M/N: VICAM-AMS-MS10-MULTIMEDIA

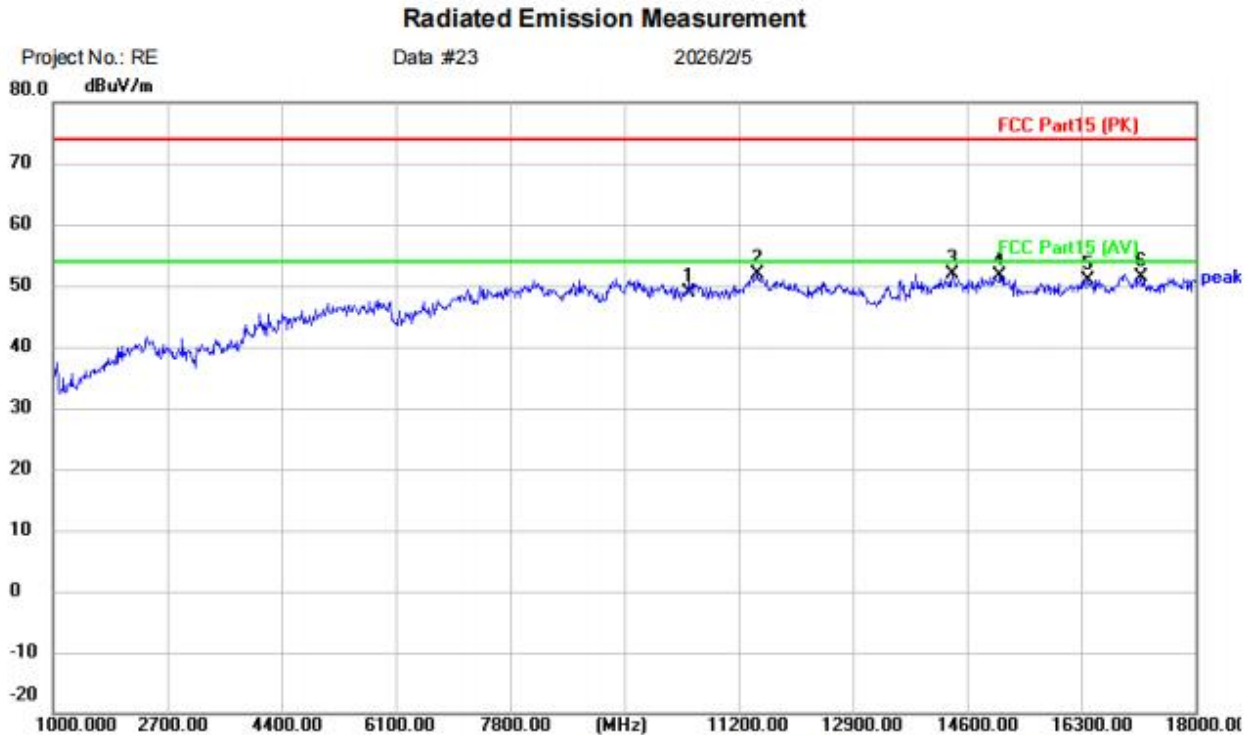
Mode: 5.1G-TX-5200

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10400.00	35.54	13.51	49.05	74.00	-24.95	peak	
2		11540.00	37.40	14.83	52.23	74.00	-21.77	peak	
3		14328.00	40.47	10.97	51.44	74.00	-22.56	peak	
4		14838.00	42.11	10.08	52.19	74.00	-21.81	peak	
5		16351.00	42.30	9.33	51.63	74.00	-22.37	peak	
6	*	16980.00	43.23	9.33	52.56	74.00	-21.44	peak	

Test Result: Pass

[Test mode:Band1 TX High channel]; [Polarity: Horizontal] ;[Power: DC12V]

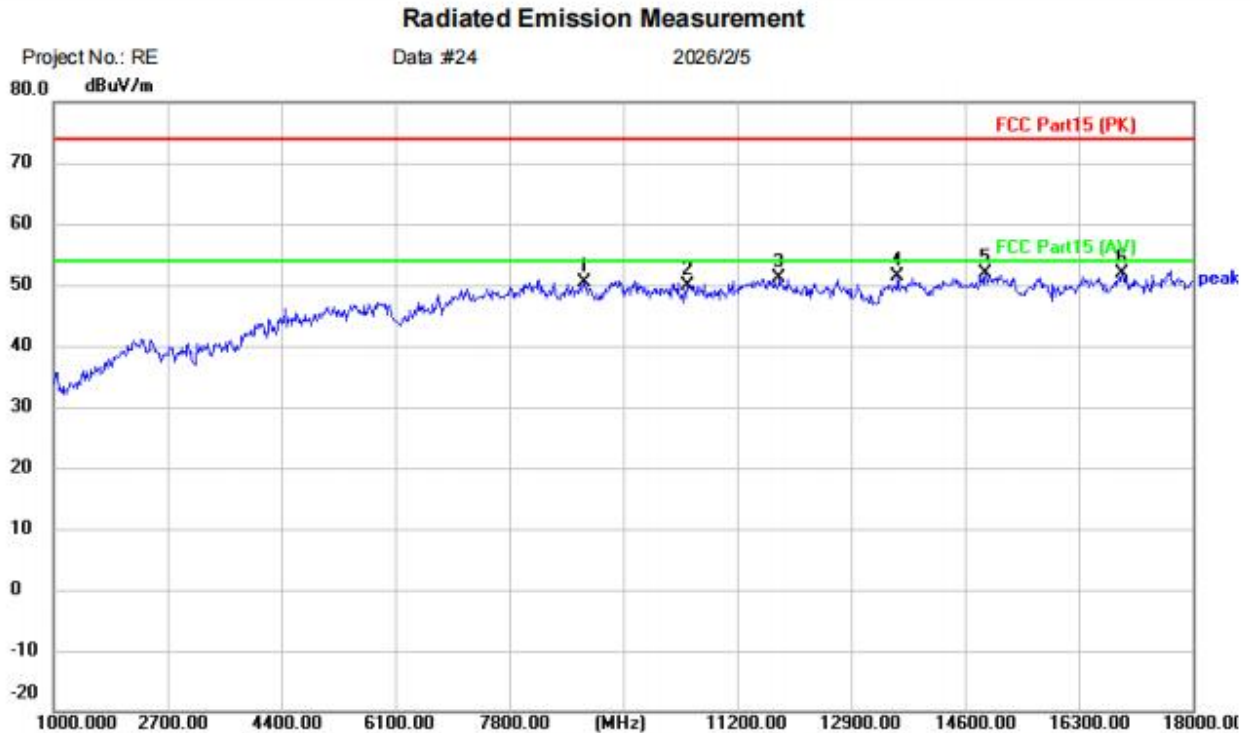


Site: Polarization: **Horizontal** Temperature: (C)
 Limit: FCC Part15 (PK) Power: Humidity: %RH
 EUT: CAR MONITOR
 M/N: VICAM-AMS-MS10-MULTIMEDIA
 Mode: 5.1G-TX-5240
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10480.00	35.06	13.70	48.76	74.00	-25.24	peak	
2	*	11472.00	37.16	14.70	51.86	74.00	-22.14	peak	
3		14379.00	41.02	10.78	51.80	74.00	-22.20	peak	
4		15093.00	42.12	9.53	51.65	74.00	-22.35	peak	
5		16402.00	41.44	9.55	50.99	74.00	-23.01	peak	
6		17184.00	40.84	10.52	51.36	74.00	-22.64	peak	

Test Result: Pass

[Test mode:Band1 TX High channel]; [Polarity: Vertical] ;[Power: DC12V]



Site Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: CAR MONITOR

MN: VICAM-AMS-MS10-MULTIMEDIA

Mode: 5.1G-TX-5240

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		8922.000	38.04	12.34	50.38	74.00	-23.62	peak	
2		10480.00	36.24	13.70	49.94	74.00	-24.06	peak	
3		11829.00	37.62	13.50	51.12	74.00	-22.88	peak	
4		13597.00	38.44	12.90	51.34	74.00	-22.66	peak	
5	*	14906.00	42.05	9.77	51.82	74.00	-22.18	peak	
6		16946.00	42.00	9.81	51.81	74.00	-22.19	peak	

Test Result: Pass

Note:When scanning in the range of 1GHz~ 40GHz and the interference above 18GHz is very small, it is a low noise signal. The point shown in the figure above is the highest emission that can be found during the test, so only the above point is shown. The fundamental frequency is blocked by the filter. Only stray emission.

6.12 Radiated emissions which fall in the restricted bands

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 D02 II G
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

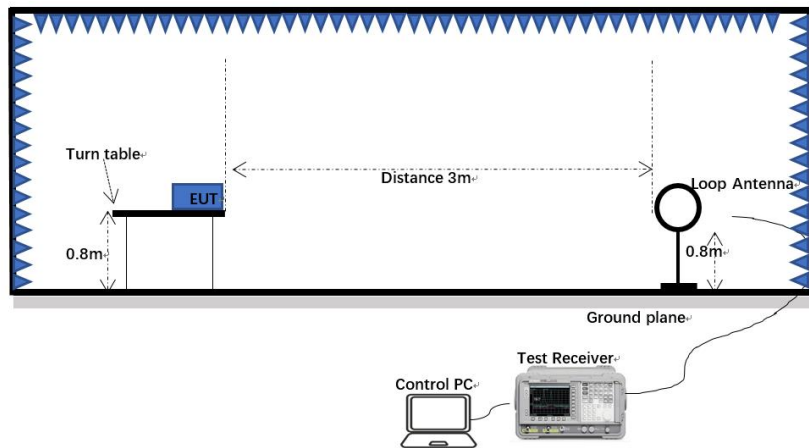
6.12.1 Limit

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

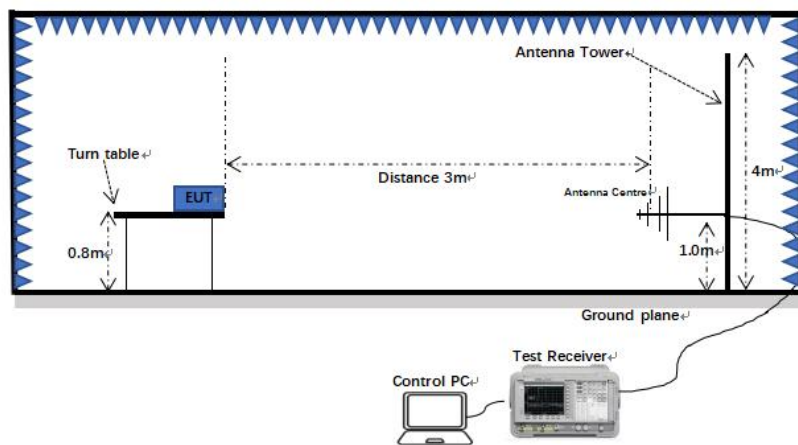
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

6.12.2 Test setup

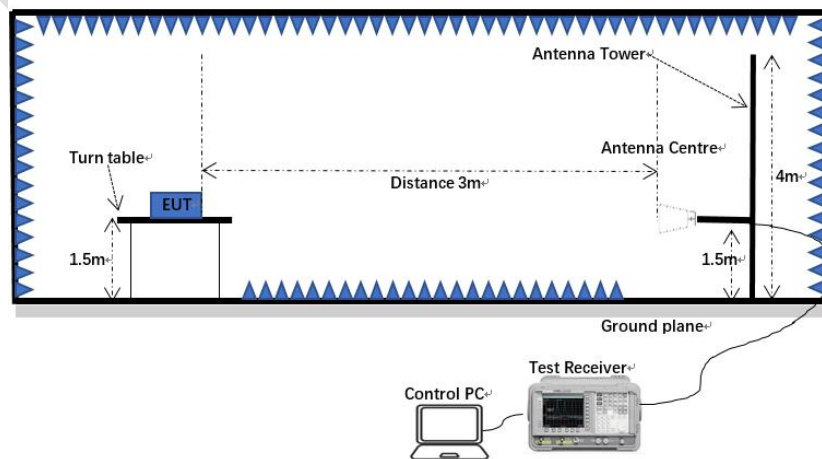
Below 1GHz:



30MHz-1GHz:



Above 1GHz:



6.12.3 Procedure

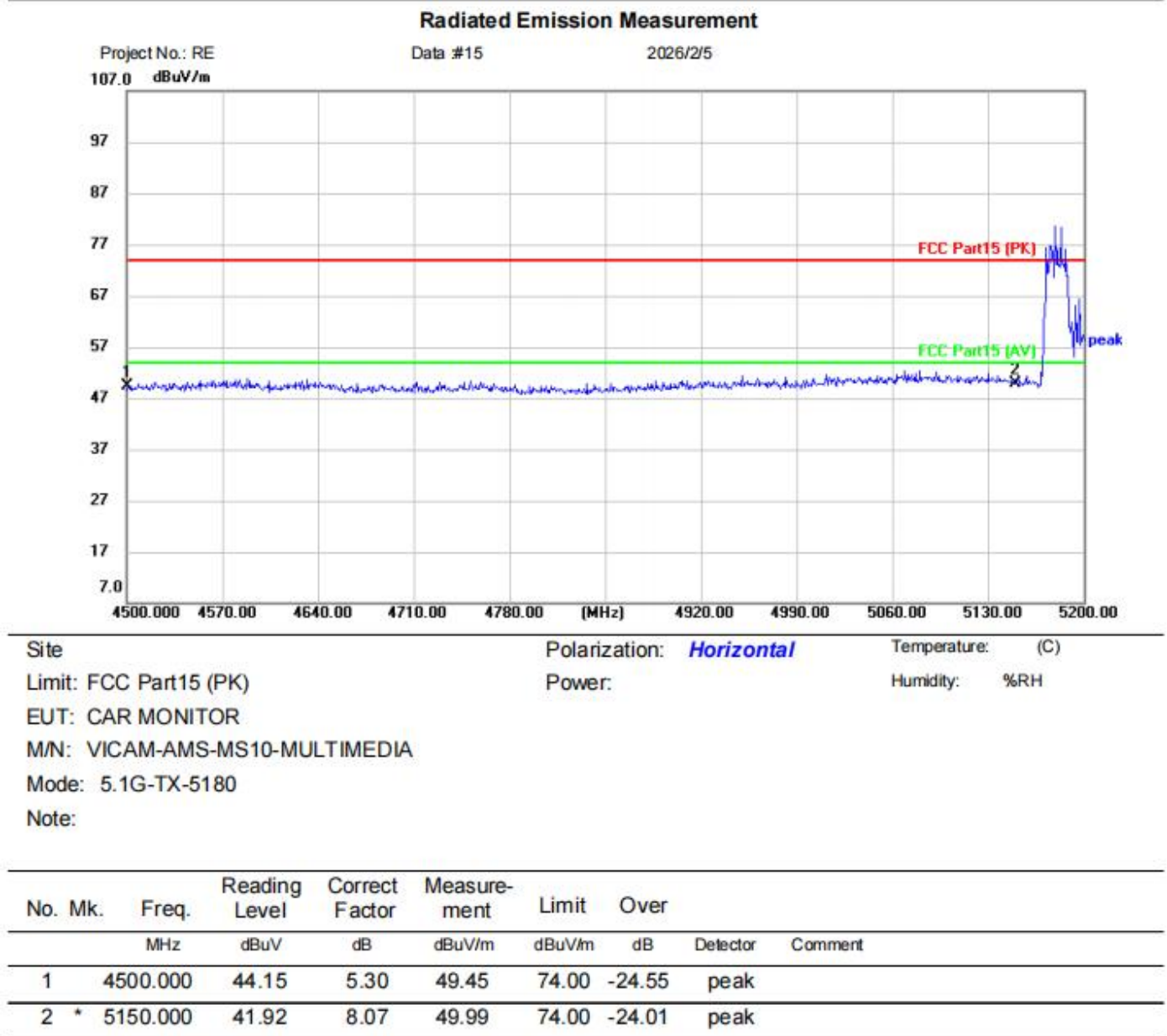
- a) For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b) For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d) The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e) For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f) The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- g) If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- h) Test the EUT in the lowest channel, the middle channel, the highest channel.
- i) The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j) Repeat above procedures until all frequencies measured was complete.

Note 1: Level (dBuV) = Reading (dBuV) + Factor (dB/m)

Note 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

6.12.4 Test data

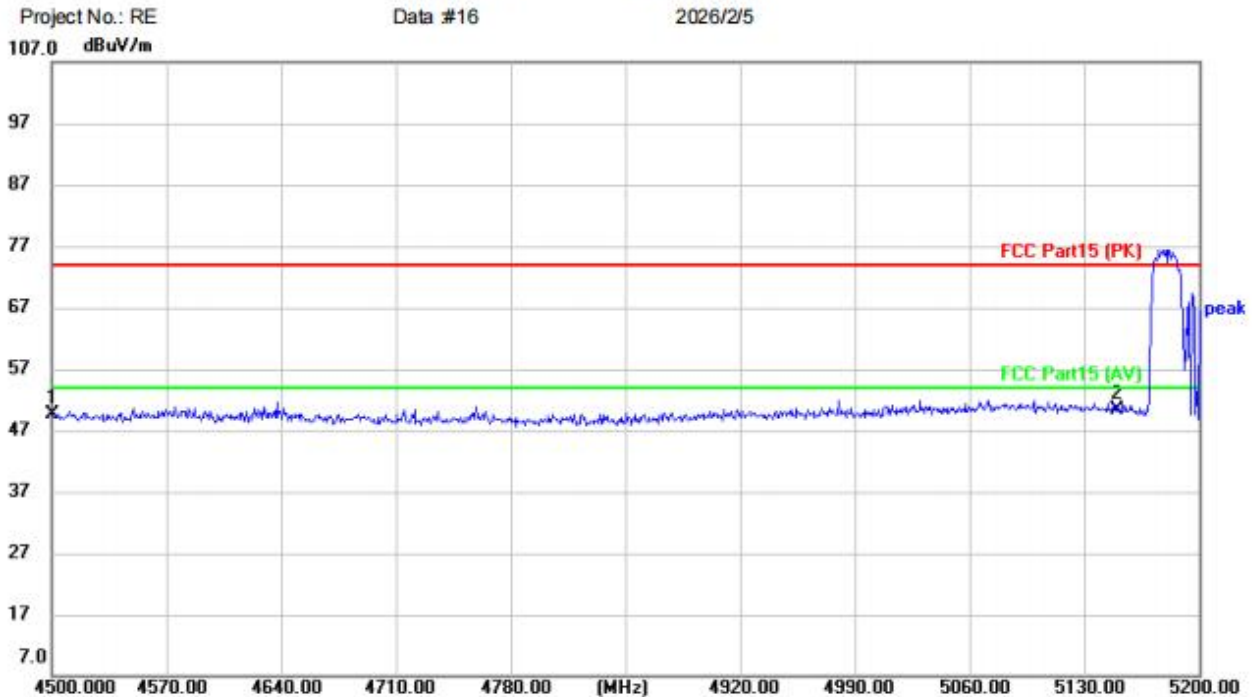
[Test mode:Band1 TX low channel]; [Polarity: Horizontal] ;[Power: DC12V]



Test Result: Pass

[Test mode:Band1 TX low channel]; [Polarity: Vertical] ;[Power: DC12V]

Radiated Emission Measurement



Site Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: CAR MONITOR

M/N: VICAM-AMS-MS10-MULTIMEDIA

Mode: 5.1G-TX-5180

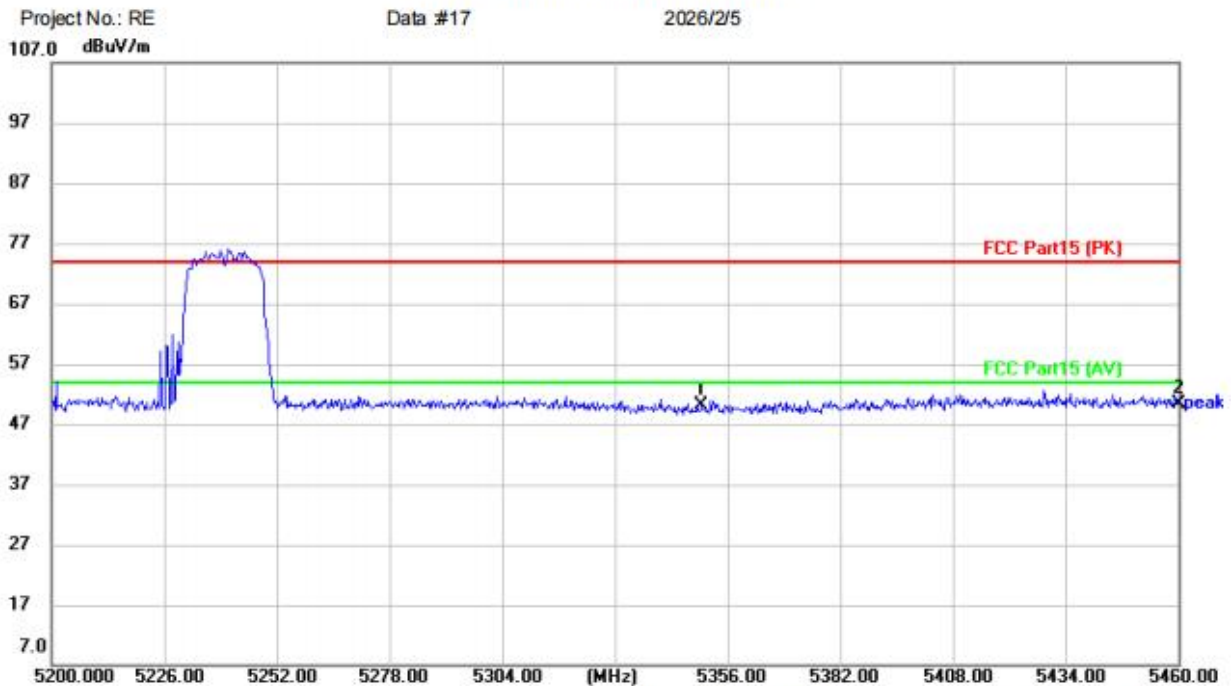
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4500.000	44.24	5.30	49.54	74.00	-24.46	peak	
2	*	5150.000	42.34	8.07	50.41	74.00	-23.59	peak	

Test Result: Pass

[Test mode:Band1 TX High channel]; [Polarity: Horizontal] ;[Power: DC12V]

Radiated Emission Measurement



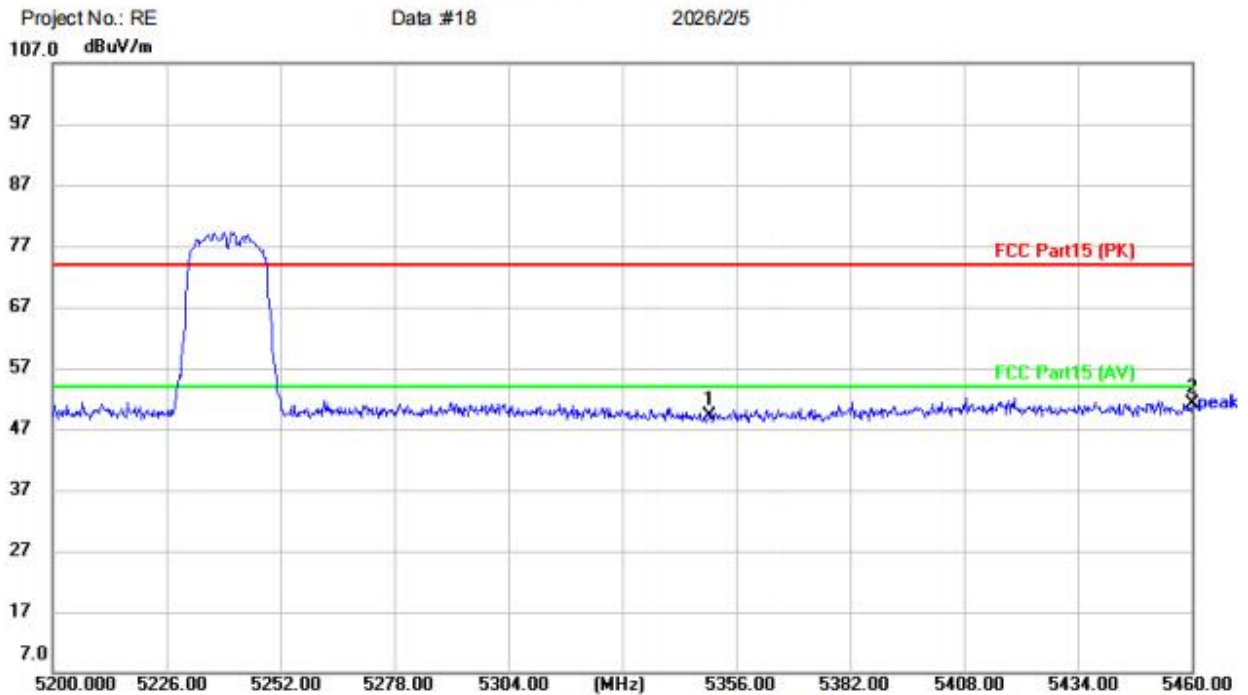
Site Polarization: **Horizontal** Temperature: (C)
Limit: FCC Part15 (PK) Power: Humidity: %RH
EUT: CAR MONITOR
M/N: VICAM-AMS-MS10-MULTIMEDIA
Mode: 5.1G-TX-5240
Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5350.000	42.52	7.53	50.05	74.00	-23.95	peak	
2	*	5460.000	42.18	8.29	50.47	74.00	-23.53	peak	

Test Result: Pass

[Test mode:Band1 TX High channel]; [Polarity: Vertical] ;[Power: DC12V]

Radiated Emission Measurement



Site: Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: CAR MONITOR

M/N: VICAM-AMS-MS10-MULTIMEDIA

Mode: 5.1G-TX-5240

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	41.48	7.53	49.01	74.00	-24.99	peak	
2	*	5460.000	42.72	8.29	51.01	74.00	-22.99	peak	

Test Result: Pass

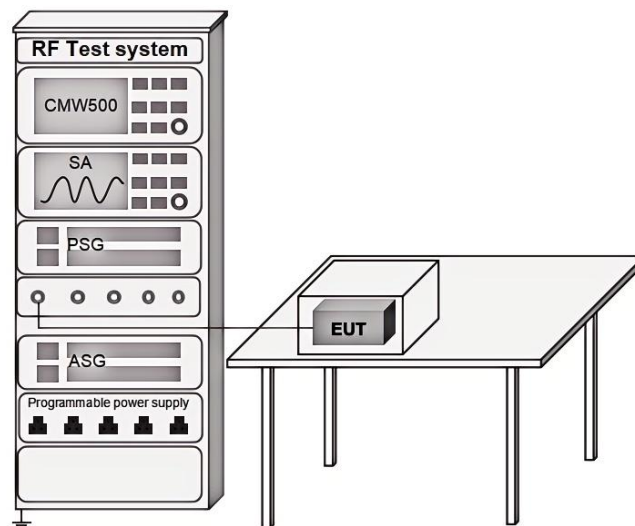
6.13 DFS: Channel Closing Transmission Time

Test Standard	47 CFR Part 15, Subpart E 15.407(h)(2)
Test Method	KDB 905462 D02 Section 7.8.3
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.13.1 Limit

200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period (should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. It is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions)

6.13.2 Test setup



6.13.3 Procedure

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.

- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file `iperf.exe` specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

6.13.4 Test data

N/A

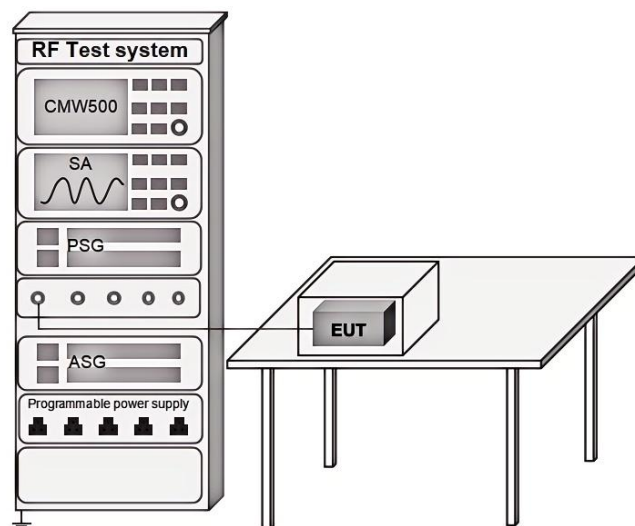
6.14 DFS: Non-occupancy period

Test Standard	47 CFR Part 15, Subpart E 15.407(h)(2)
Test Method	KDB 905462 D02 Section 7.8.3
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX

6.14.1 Limit

Minimum 30 minutes

6.14.2 Test setup



6.14.3 Procedure

- 1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
- 2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.
- 3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
- 4) EUT will associate with the master at channel. The file `iperf.exe` specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.

- 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
- 6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.
- 7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
- 8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

6.14.4 Test data

N/A

7 Appendix A

7.1 Frequency Stability

Voltage vs. Frequency Stability

Test frequency		Test conditions		Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Max. Deviation (ppm)	Limit (ppm)	Verdict
Band	Frequency	Temp(°C)	Voltage(DC V)						
Band 1	(20MHz)Lowest channel=5180MHz	20	12	Ant1	5180.0315	31500	6.08	25	Pass
			10.2	Ant1	5180.029	29000	5.60	25	Pass
			13.8	Ant1	5180.034	34000	6.56	25	Pass

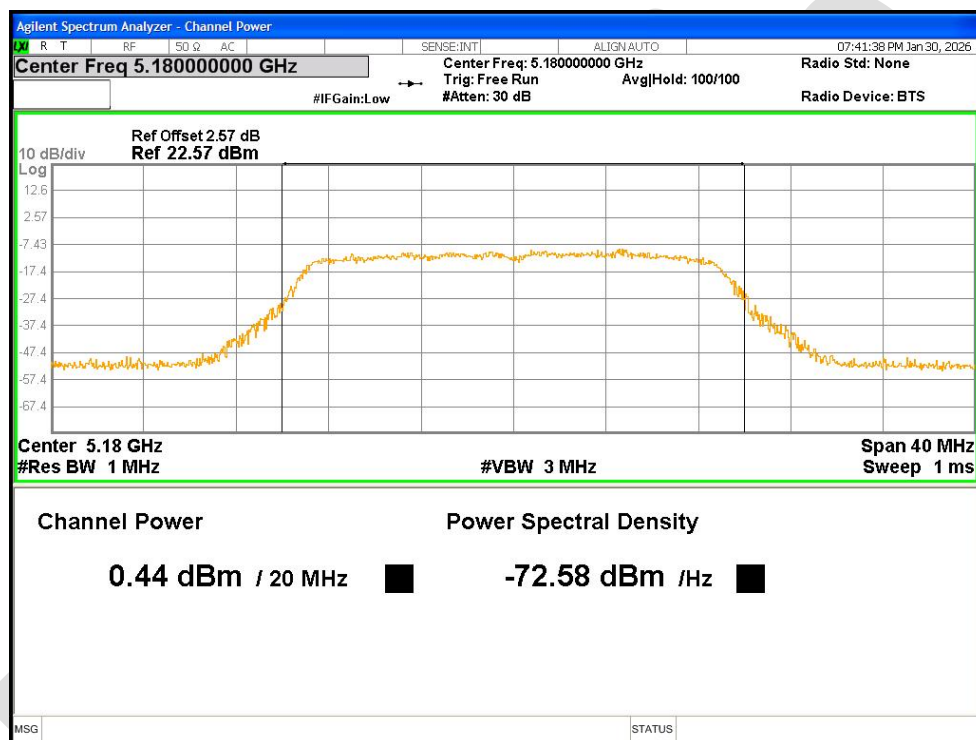
Temperature vs. Frequency Stability

Test frequency		Test conditions		Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Max. Deviation (ppm)	Limit (ppm)	Verdict
Band	Frequency	Voltage(DC V)	Temp(°C)						
Band 1	(20MHz)Lowest channel=5180MHz	12	-20	Ant1	5180.0125	12500	2.41	25	Pass
			-10	Ant1	5180.0305	30500	5.89	25	Pass
			0	Ant1	5180.0105	10500	2.03	25	Pass
			10	Ant1	5180.008	8000	1.54	25	Pass
			20	Ant1	5180.0465	46500	8.98	25	Pass
			30	Ant1	5180.0155	15500	2.99	25	Pass
			40	Ant1	5180.0005	500	0.10	25	Pass
			50	Ant1	5180.02	20000	3.86	25	Pass

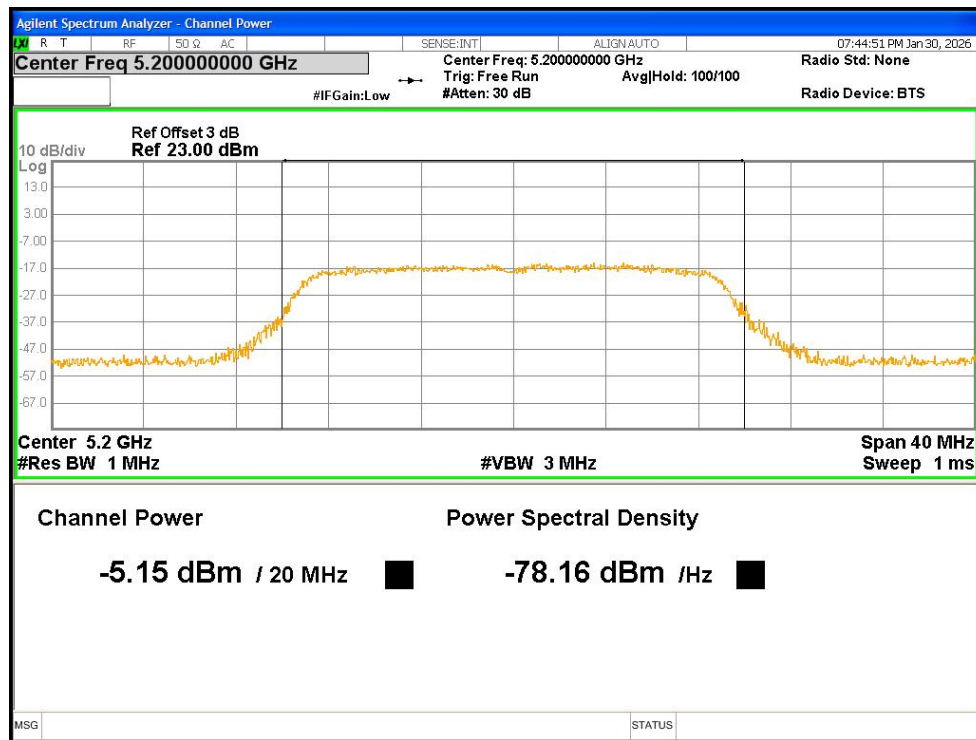
7.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	n20	5180	Ant1	0.435	0.4	0.835	30	Pass
NVNT	n20	5200	Ant1	-5.149	0.4	-4.749	30	Pass
NVNT	n20	5240	Ant1	-4.062	0.41	-3.652	30	Pass

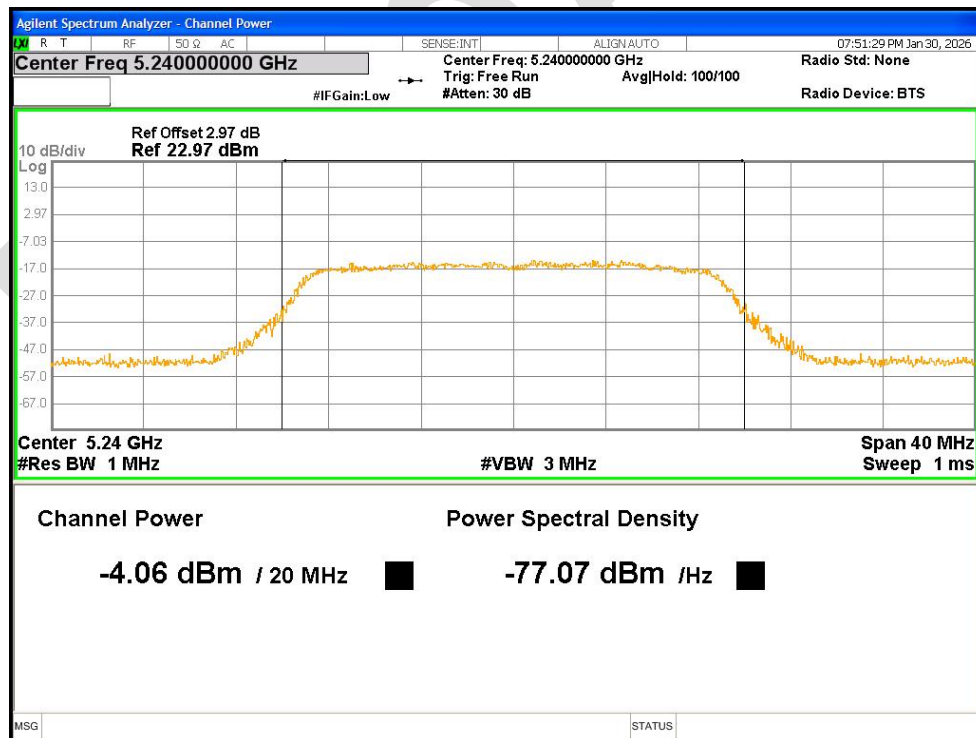
Power NVNT n20 5180MHz Ant1



Power NVNT n20 5200MHz Ant1



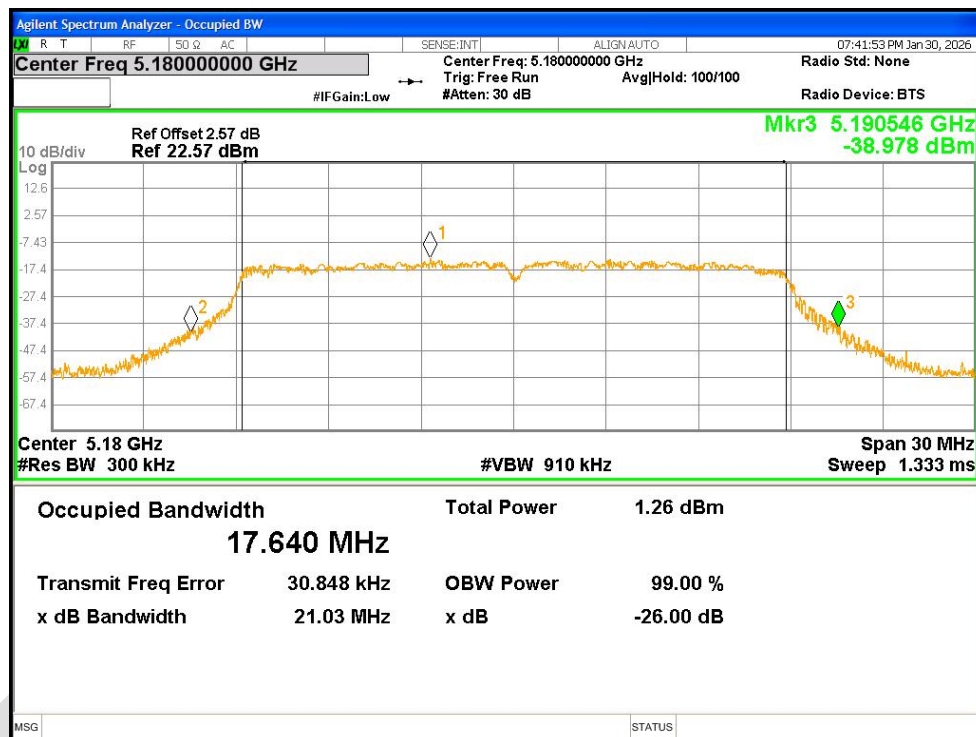
Power NVNT n20 5240MHz Ant1



7.3 -26dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	n20	5180	Ant1	21.031	0.5	Pass
NVNT	n20	5200	Ant1	20.878	0.5	Pass
NVNT	n20	5240	Ant1	21.006	0.5	Pass

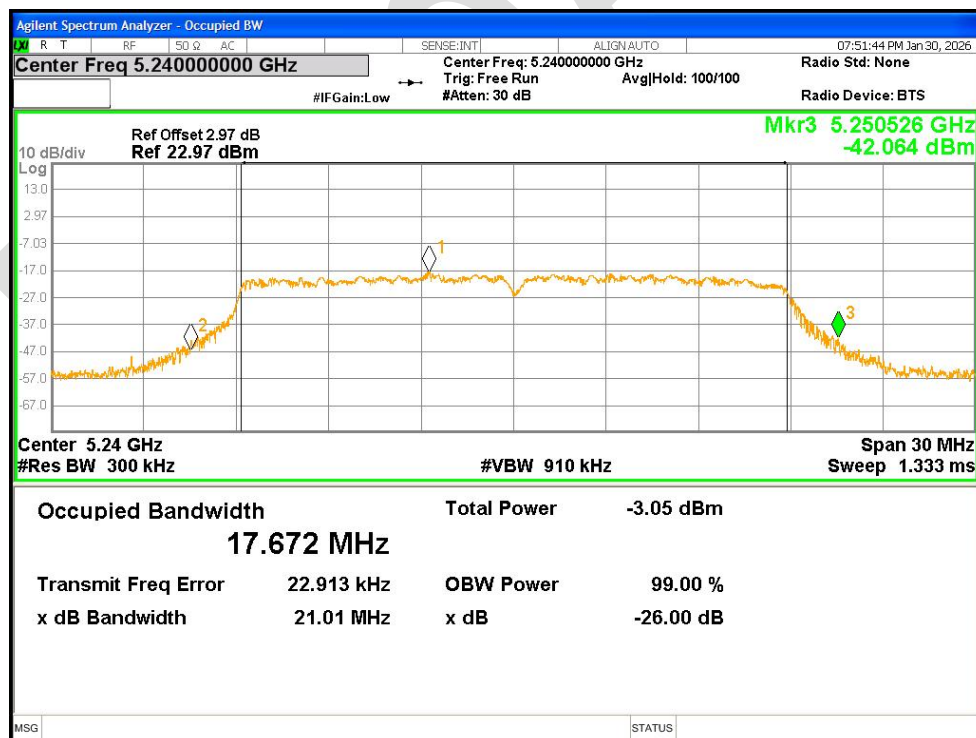
-26dB Bandwidth NVNT n20 5180MHz Ant1



-26dB Bandwidth NVNT n20 5200MHz Ant1



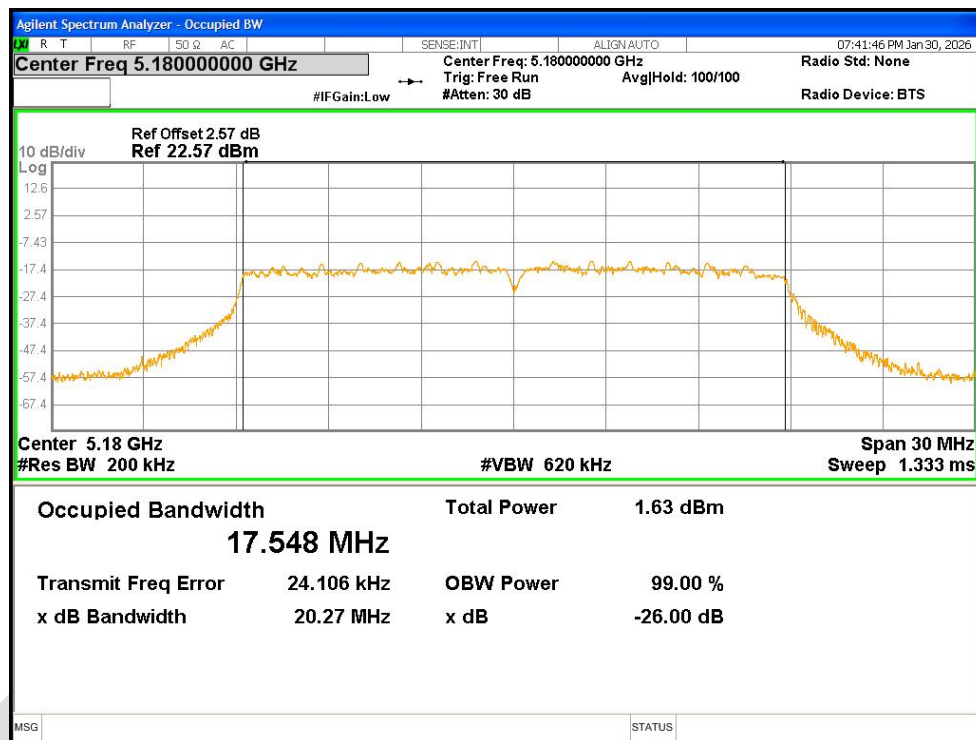
-26dB Bandwidth NVNT n20 5240MHz Ant1



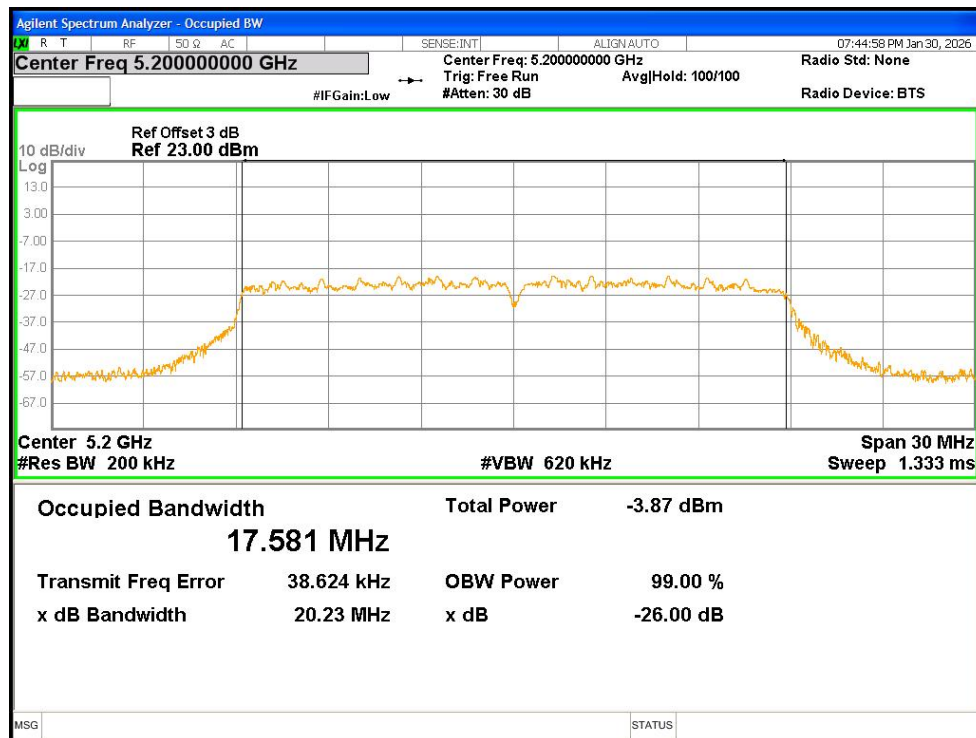
7.4 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	n20	5180	Ant1	17.548
NVNT	n20	5200	Ant1	17.581
NVNT	n20	5240	Ant1	17.571

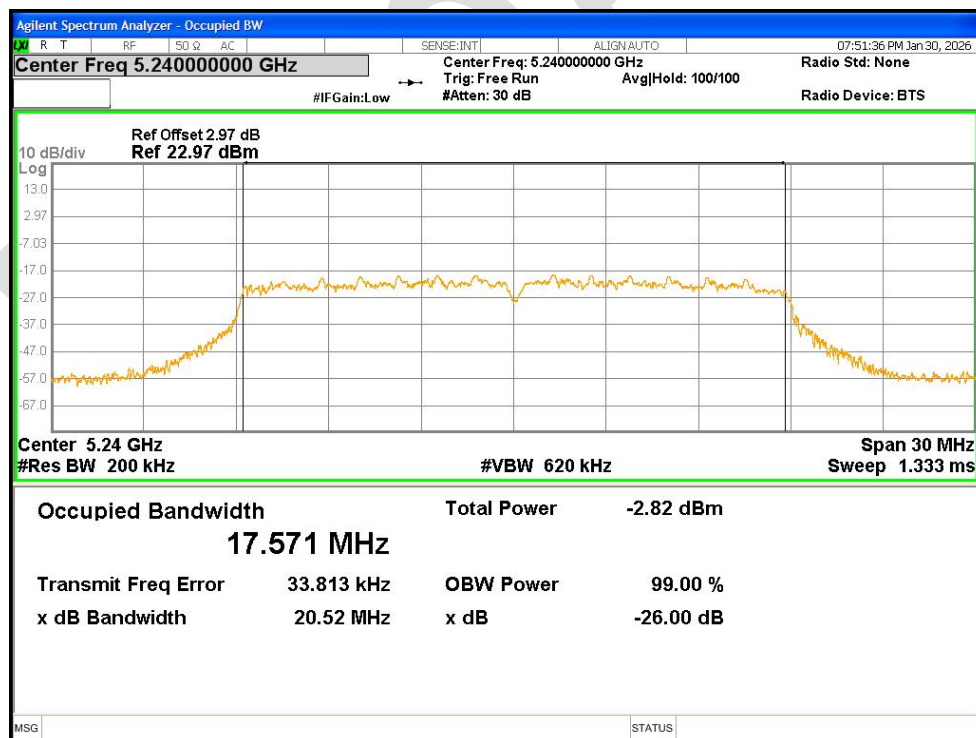
OBW NVNT n20 5180MHz Ant1



OBW NVNT n20 5200MHz Ant1



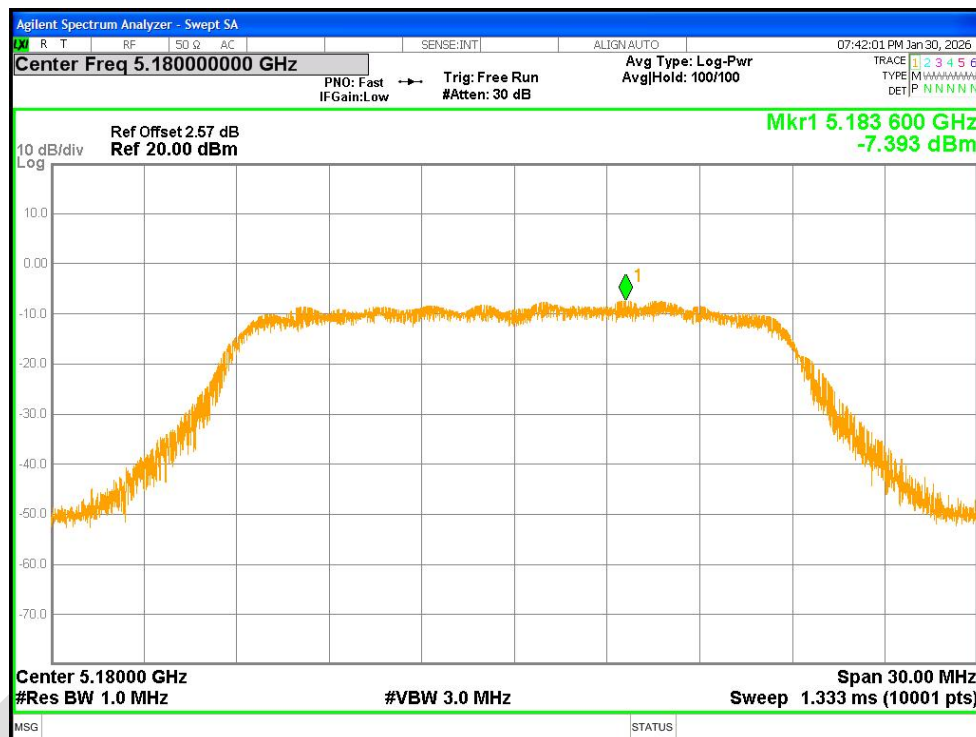
OBW NVNT n20 5240MHz Ant1



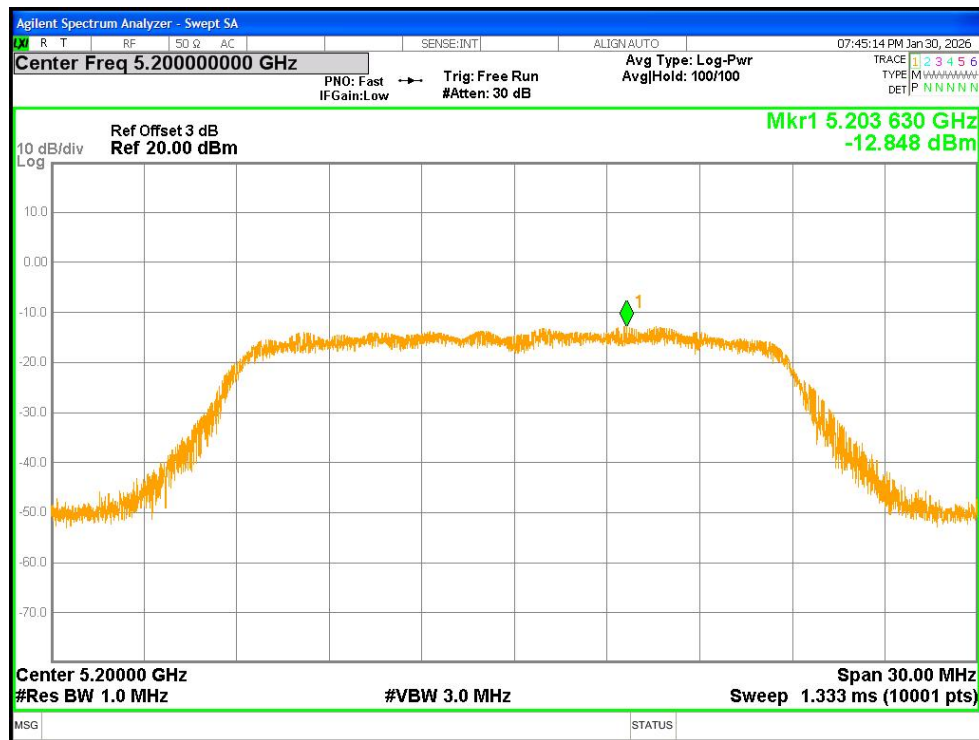
7.5 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	n20	5180	Ant1	-7.393	0	-7.393	11	Pass
NVNT	n20	5200	Ant1	-12.848	0	-12.848	11	Pass
NVNT	n20	5240	Ant1	-11.83	0	-11.83	11	Pass

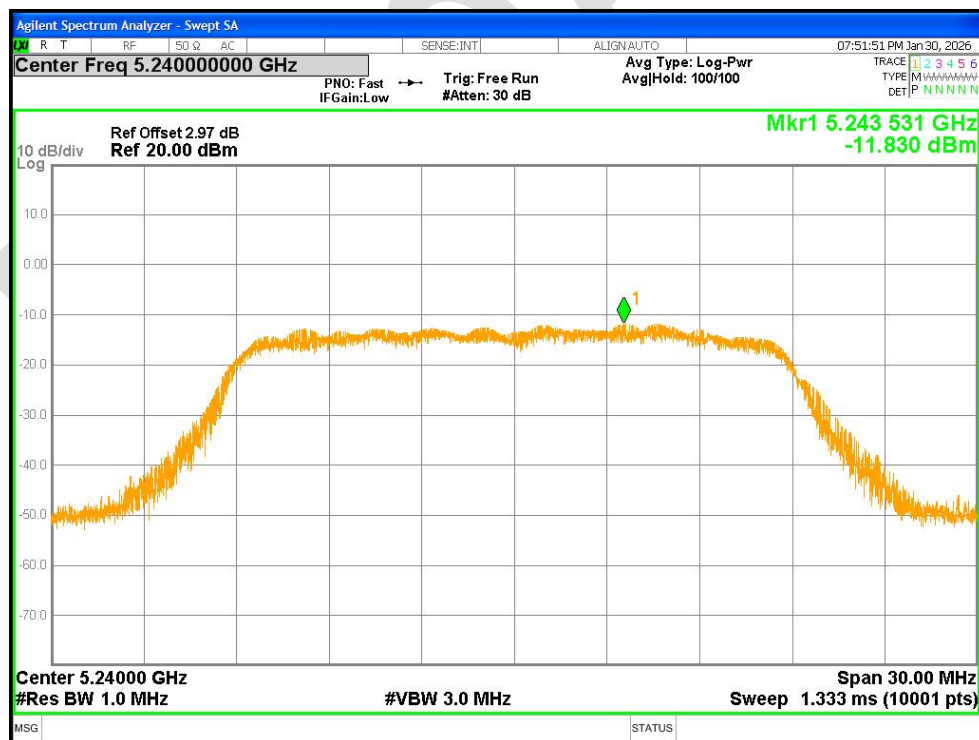
PSD NVNT n20 5180MHz Ant1



PSD NVNT n20 5200MHz Ant1



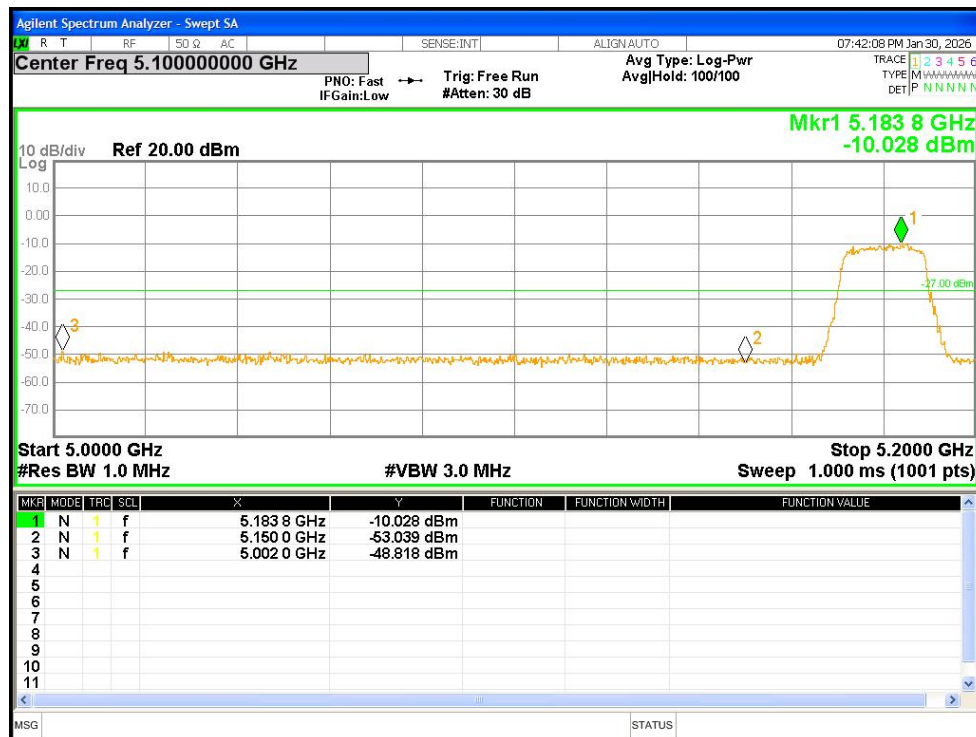
PSD NVNT n20 5240MHz Ant1



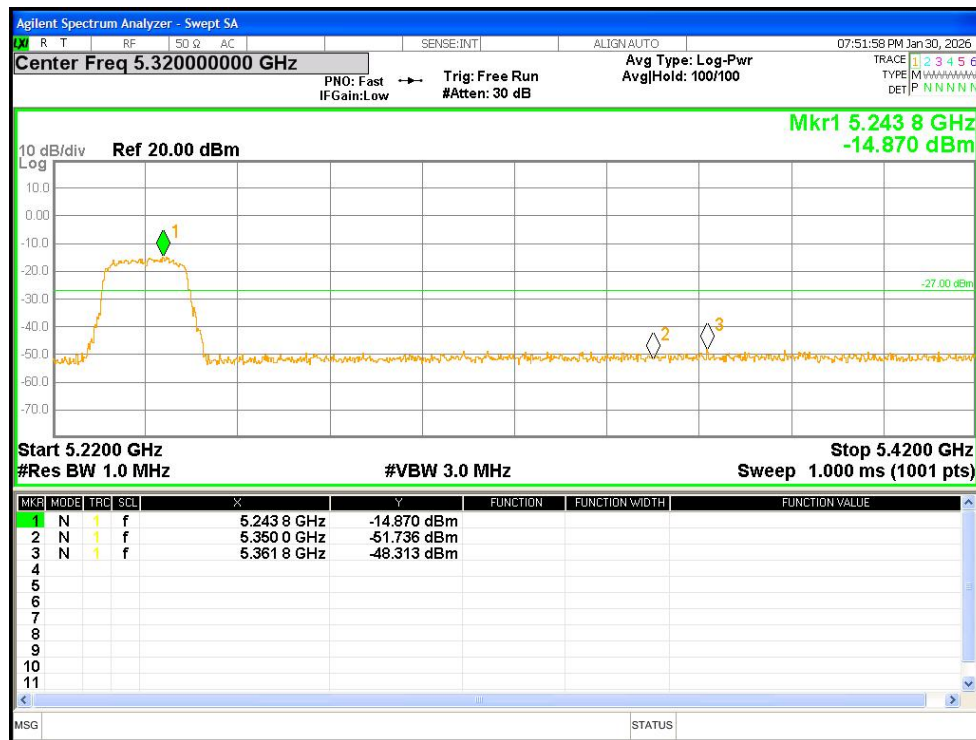
7.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	n20	5180	Ant1	-48.81	-27	Pass
NVNT	n20	5240	Ant1	-48.31	-27	Pass

Band Edge NVNT n20 5180MHz Low Ant1



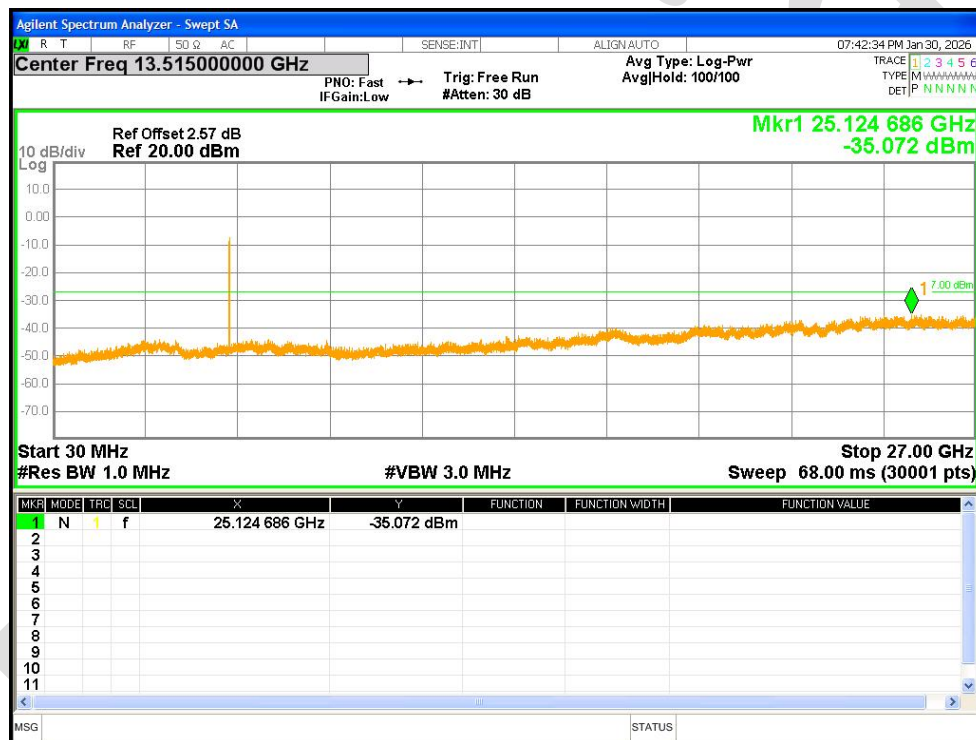
Band Edge NVNT n20 5240MHz High Ant1



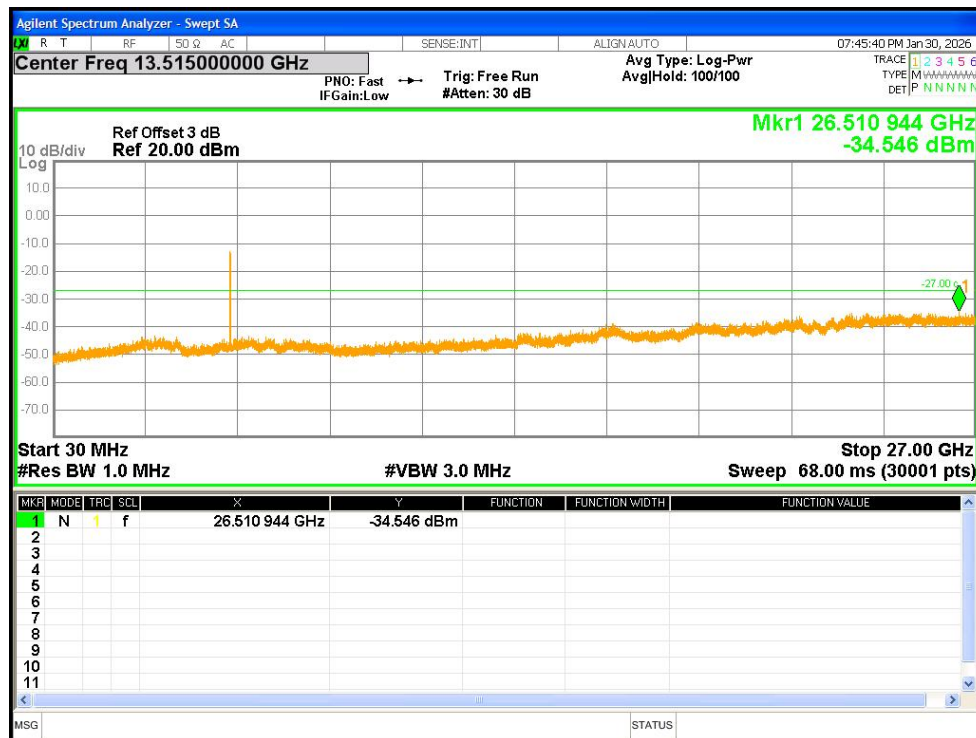
7.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	n20	5180	Ant1	-35.07	-27	Pass
NVNT	n20	5200	Ant1	-34.54	-27	Pass
NVNT	n20	5240	Ant1	-34.73	-27	Pass

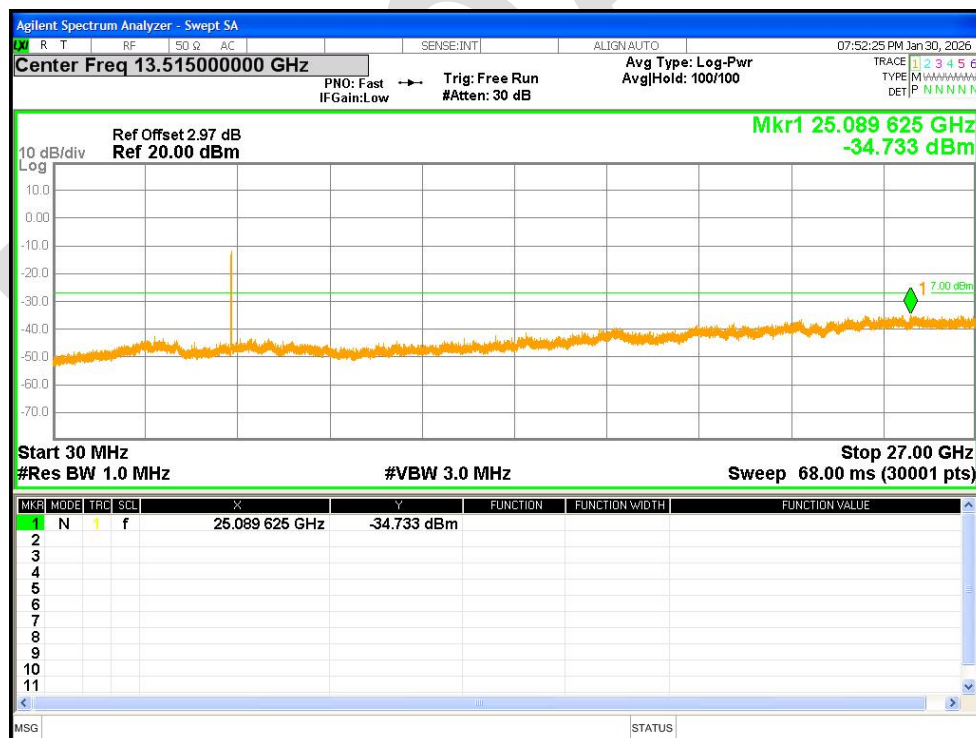
Tx. Spurious NVNT n20 5180MHz Ant1 Emission



Tx. Spurious NVNT n20 5200MHz Ant1 Emission

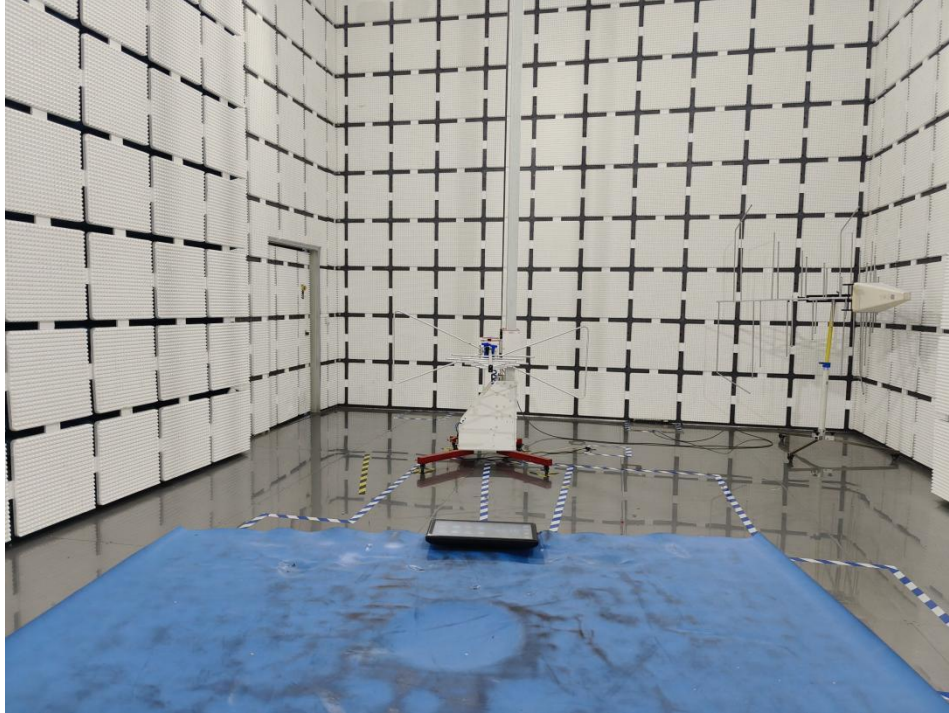


Tx. Spurious NVNT n20 5240MHz Ant1 Emission



Appendix B: photographs of test setup

Radiated Emissions (30MHz-1GHz)



Radiated Emissions (above 1GHz)



RF TEST



Appendix C: photographs of EUT

Reference to the test report no. BLA-EMC-202601-A9801

----END OF REPORT----

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