

TEST REPORT

of

FCC Part 15 Subpart E §15.407

FCC ID: TQ8-DA350TYGU

Equipment Under Test : DISPLAY CAR SYSTEM

Model Name : DA350TYGU

Variant Model Name(s) : Refer to the page 4

Applicant : Hyundai Mobis Co., Ltd.

Manufacturer : Hyundai Mobis Co., Ltd.

Date of Receipt : 2021.12.09

Date of Test(s) : 2021.12.13 ~ 2022.01.07

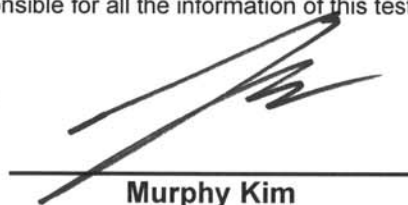
Date of Issue : 2022.01.07

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

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Tested by:



Murphy Kim

Technical
Manager:



Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

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- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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1.2. Details of Applicant

Applicant : Hyundai Mobis Co., Ltd.

Address : 203, Teheran-ro, Gangnam-gu, Seoul, South Korea, 135-977

Contact Person : Seung-hoon, Choe

Phone No. : +82 31 260 0098

1.3. Details of Manufacturer

Company : Same as applicant

Address : Same as applicant

1.4. Description of EUT

Kind of Product	DISPLAY CAR SYSTEM
Model Name	DA350TYGU
Variant Model Name	DA360TYGU
Serial Number	Conducted Sample: C-001 Radiated Sample: R-001
Power Supply	DC 14.4 V
Frequency Range	5 180 MHz ~ 5 240 MHz (Band 1: 11a/n_HT20, 11ac_VHT20) 5 190 MHz ~ 5 230 MHz (Band 1: 11n_HT40, 11ac_VHT40) 5 210 MHz (Band 1: 11ac_VHT80) 5 260 MHz ~ 5 320 MHz (Band 2A: 11a/n_HT20, 11ac_VHT20) 5 270 MHz ~ 5 310 MHz (Band 2A: 11n_HT40, 11ac_VHT40) 5 290 MHz (Band 2A: 11ac_VHT80) 5 500 MHz ~ 5 720 MHz (Band 2C: 11a/n_HT20, 11ac_VHT20) 5 510 MHz ~ 5 710 MHz (Band 2C: 11n_HT40, 11ac_VHT40) 5 530 MHz ~ 5 690 MHz (Band 2C: 11ac_VHT80) 5 745 MHz ~ 5 825 MHz (Band 3: 11a/n_HT20, 11ac_VHT20) 5 755 MHz ~ 5 795 MHz (Band 3: 11n_HT40, 11ac_VHT40) 5 775 MHz (Band 3: 11ac_VHT80)
Modulation Technique	OFDM
Number of Channels	4 channels (Band 1: 11a/n_HT20, 11ac_VHT20) 2 channels (Band 1: 11n_HT40, 11ac_VHT40) 1 channel (Band 1: 11ac_VHT80) 4 channels (Band 2A: 11a/n_HT20, 11ac_VHT20) 2 channels (Band 2A: 11n_HT40, 11ac_VHT40) 1 channel (Band 2A: 11ac_VHT80) 9 channels (Band 2C: 11a/n_HT20, 11ac_VHT20) 4 channels (Band 2C: 11n_HT40, 11ac_VHT40) 2 channels (Band 2C: 11ac_VHT80) 5 channels (Band 3: 11a/n_HT20, 11ac_VHT20) 2 channels (Band 3: 11n_HT40, 11ac_VHT40) 1 channel (Band 3: 11ac_VHT80)
Antenna Type	Pattern antenna
Antenna Gain ※	5 150 MHz ~ 5 250 MHz: -0.61 dBi 5 250 MHz ~ 5 350 MHz: -0.18 dBi 5 470 MHz ~ 5 725 MHz: -0.77 dBi 5 725 MHz ~ 5 850 MHz: -0.18 dBi
H/W Version	1.0
S/W Version	1.0

1.5. Declaration by the Manufacturer

- The EUT is a slave without radar detection and TPC.
- The EUT is not supported TDWR(5.6 - 5.65 GHz) band.

1.6. Automatically Discontinue Transmission

1.6.1. Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operating failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

1.6.2. Test Result of Automatically Discontinue Transmission

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

1.7. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	R&S	SMR40	100272	Jun. 16, 2021	Annual	Jun. 16, 2022
Signal Generator	R&S	SMBV100A	255834	May 31, 2021	Annual	May 31, 2022
Spectrum Analyzer	R&S	FSV30	103210	Dec. 08, 2021	Annual	Dec. 08, 2022
Spectrum Analyzer	Agilent	N9020A	MY53421758	Aug. 27, 2021	Annual	Aug. 27, 2022
Spectrum Analyzer	Agilent	N9030A	US51350132	Nov. 17, 2021	Annual	Nov. 12, 2022
Power Meter	Anritsu	ML2495A	1223004	Jun. 01, 2021	Annual	Jun. 01, 2022
Power Sensor	Anritsu	MA2411B	1207272	Jun. 01, 2021	Annual	Jun. 01, 2022
Attenuator	AEROFLEX / INMET	40AH2W-10	40G-3	Jun. 16, 2021	Annual	Jun. 16, 2022
Low Pass Filter	Mini-Circuits	NLP-1200+	V 8979400903-2	Feb. 08, 2021	Annual	Feb. 08, 2022
Low Pass Filter	WT MICROWAVE INC	WT-A1700-LS	WT151207001	Mar. 04, 2021	Annual	Mar. 04, 2022
High Pass Filter	Wainwright Instrument GmbH	WHKX6.0/18G-10SS	51	Jun. 16, 2021	Annual	Jun. 16, 2022
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	11	Aug 11, 2021	Annual	Aug 11, 2022
DC Power Supply	R&S	HMP2020	020089489	May 14, 2021	Annual	May 14, 2022
Preamplifier	H.P.	8447F	2944A03909	Aug. 06, 2021	Annual	Aug. 06, 2022
Signal Conditioning Unit	R&S	SCU-18	10117	Jun. 09, 2021	Annual	Jun. 09, 2022
Preamplifier	TESTEK	TK-PA1840H	130016	Jan. 07, 2021	Annual	Jan. 07, 2022
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 23, 2021	Biennial	Aug. 23, 2023
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB 9163	01126	Dec. 22, 2020	Annual	Dec. 22, 2021
Horn Antenna	R&S	HF906	100326	Feb. 04, 2021	Annual	Feb. 04, 2022
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	9170-540	Nov. 30, 2021	Annual	Nov. 30, 2022
EMI Test Receiver	R&S	ESU26	100109	Feb. 19, 2021	Annual	Feb. 19, 2022
Turn Table	Innco systems GmbH	DS 1200 S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/3 8330516/L	N.C.R.	N/A	N.C.R.
Antenna Mast	Innco systems GmbH	MA4640-XP-ET	MA4640/536/3 8330516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L x W x H (9.6 m x 6.4 m x 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RFONE	MWX221-NMSNMS (4 m)	J1023142	Sep. 14, 2021	Semi-Annual	Mar. 14, 2022
Coaxial Cable	RFONE	PL520-NMNM-10M (10 m)	20200324001	Sep. 14, 2021	Semi-Annual	Mar. 14, 2022
Coaxial Cable	RFONE	PL360P-292M292M-1.5M-A	20200324002	Aug. 18, 2021	Semi-Annual	Feb. 18, 2022

Note;

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date

1.8. Summary of Test Result

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15 Subpart E		
Section	Test Item(s)	Result
15.205(a) 15.209(a) 15.407(b)(1) 15.407(b)(2) 15.407(b)(3) 15.407(b)(4)	Transmitter Radiated Spurious Emissions	Complied
15.407(a)	26 dB Bandwidth & 99 % Bandwidth	Complied
15.407(e)	6 dB Bandwidth	Complied
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	Maximum Conducted Output Power	Complied
15.407(a)(1) 15.407(a)(2) 15.407(a)(3)	Peak Power Spectral Density	Complied
15.207	AC Power Line Conducted Emission	N/A ¹⁾

Note;

- 1) The AC power line test was not performed because the EUT use battery power for operation and which do not operate from the AC power lines.

1.9. Test Procedure(s)

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of unlicensed Wireless Devices (ANSI C63.10-2013) and the guidance provided in KDB 789033 D02 General UNII Test Procedures New Rules v02r01 were used in the measurement of the DUT.

1.10. Sample Calculation

Where relevant, the following sample calculation is provided:

1.10.1. Conducted Test

Offset value (dB) = Attenuator (dB) + Cable loss (dB)

1.10.2. Radiation Test

Field strength level (dB μ V/m) = Measured level (dB μ V) + Antenna factor (dB) + Cable loss (dB) - Amplifier gain (dB)
+ Duty factor (dB)

1.11. Information of software for test

- Operating software of EUT has integrated test interface. No additional software was used.

1.12. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty	
RF Output Power	± 0.36 dB	
Occupied Bandwidth	± 13.12 kHz	
Power Spectral Density	± 0.63 dB	
Radiated Emission, 9 kHz to 30 MHz	H	± 3.66 dB
	V	± 3.66 dB
Radiated Emission, below 1 GHz	H	± 4.90 dB
	V	± 4.82 dB
Radiated Emission, above 1 GHz	H	± 3.62 dB
	V	± 3.64 dB

All measurement uncertainty values are shown with a coverage factor $k = 2$ to indicate a 95 % level of confidence

1.13. Simplification of duplicated test items

Mode	Frequency (MHz)	Average Power (dBm)
11n_HT20	5 180	6.23
11ac_VHT20		6.24
11n_HT40	5 190	2.11
11ac_VHT40		2.12

*For duplicate test items among 802.11n_HT20, HT40, 802.11ac_VHT20 and VHT40 mode, the test mode with the highest power level was tested.

1.14. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL002859	2022.01.07	Initial

1.15. Information of Variant Model

Model	Model Name	AMP	BT	Wi-Fi	FM Fre. Range	FM Ch.Space	AM Fre. Range	AM Ch. Space
Basic Model	DA350TYGU	Internal	O	O	87.5~107.9 MHz	200 kHz	530 ~ 1 701 kHz	9 kHz
Variant Model	DA360TYGU	External	O	O	87.5~107.9 MHz	200 kHz	530 ~ 1 701 kHz	9 kHz

Note;

All the test was performed with basic model.

1.16. Worst-Case Configuration and Test Mode

802.11a mode:

We found out the test mode with the highest power level after we analyze all the data rates. 9 Mbps data rate among 6 Mbps, 9 Mbps, 12 Mbps, 18 Mbps, 24 Mbps, 36 Mbps, 48 Mbps and 54 Mbps is chosen as worst case.

802.11ac_VHT20 mode:

We found out the test mode with the highest power level after we analyze all the data rates. MCS1 data rate among MCS0, MCS1, MCS2, MCS3, MCS4, MCS5, MCS6, MCS7 and MCS8 is chosen as worst case.

802.11ac_VHT40 mode:

We found out the test mode with the highest power level after we analyze all the data rates. MCS7 data rate among MCS0, MCS1, MCS2, MCS3, MCS4, MCS5, MCS6, MCS7, MCS8 and MCS9 is chosen as worst case.

802.11ac_VHT80 mode:

We found out the test mode with the highest power level after we analyze all the data rates. MCS0 data rate among MCS0, MCS1, MCS2, MCS3, MCS4, MCS5, MCS6, MCS7, MCS8 and MCS9 is chosen as worst case.

Radiated emission below 1GHz was performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Radiated emission above 1GHz was performed with the EUT set to transmit Low/Middle/High Channels.

Conducted tests were performed with the EUT set to transmit Low/Middle/High channels with highest output power.

1.17. Duty Cycle of EUT

Regarding to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, II.B, the maximum duty cycles of all modes were investigated and set the spectrum analyzer as below.
 Set RBW $\geq$ EBW if possible; otherwise, set RBW to the largest available value, Set VBW $\geq$ RBW.
 Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$ and the number of sweep points across duration T exceeds 100.

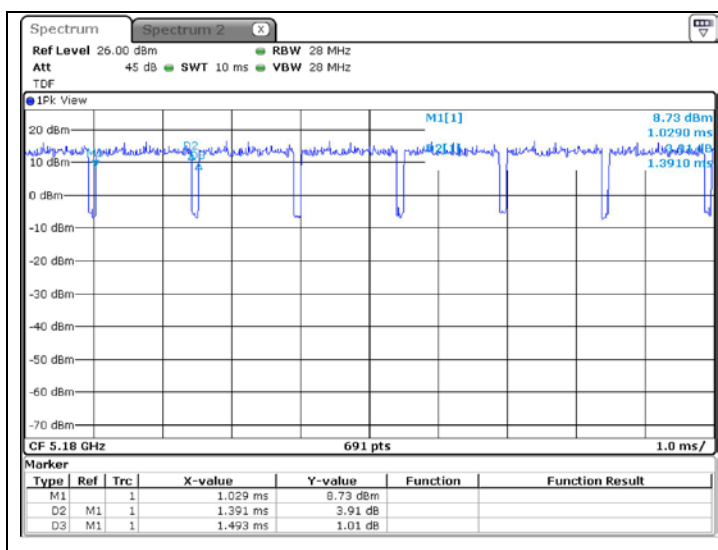
Mode	Data Rate (Mbps)	Duty Cycle (%)	Correction Factor (dB)
11a	9	93.17	0.31
11ac_VHT20	MCS1	90.83	0.42
11ac_VHT40	MCS7	56.60	2.47
11ac_VHT80	MCS0	82.03	0.86

Remark;

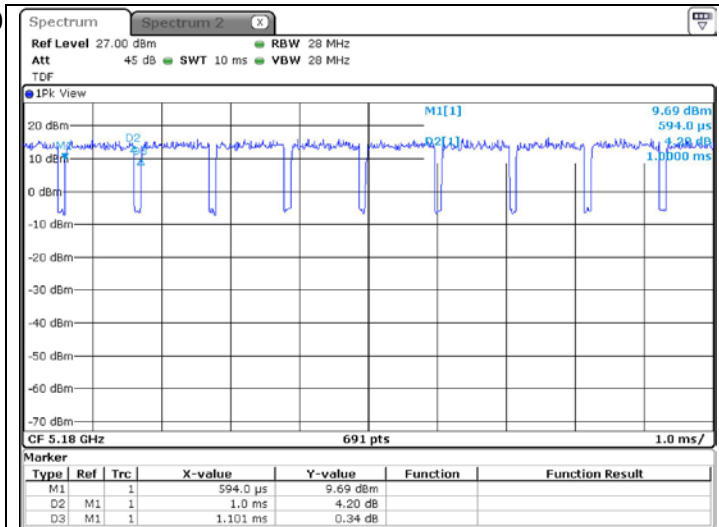
- As measured duty cycles of EUT, all of mode and data rate keep constant period and are converted to log scale (power averaging) to compensate correction factor to result of average test items.
- Duty Cycle (%) = (Tx on time / Tx on + off time) x 100
- Correction Factor (dB) = 10 log (1 / Duty Cycle)

- Test plots

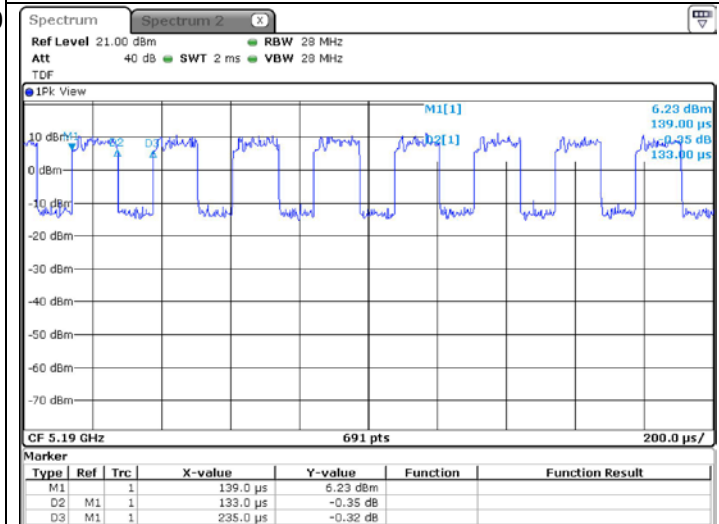
802.11a



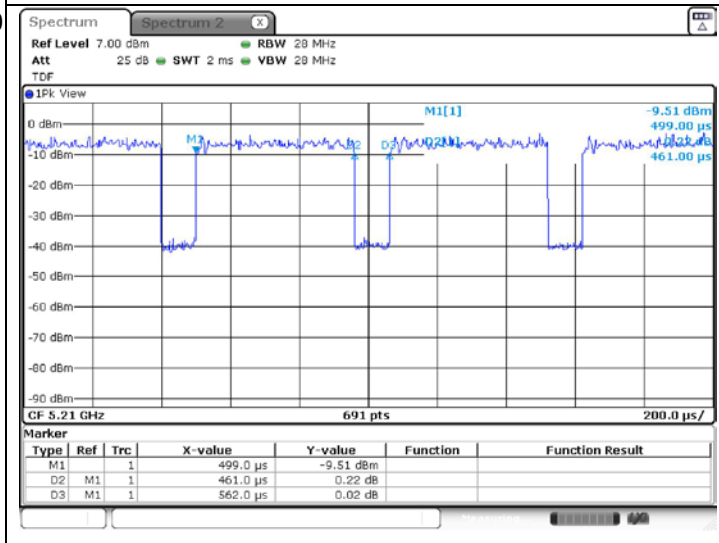
802.11ac_VHT20



802.11ac_VHT40



802.11ac_VHT80

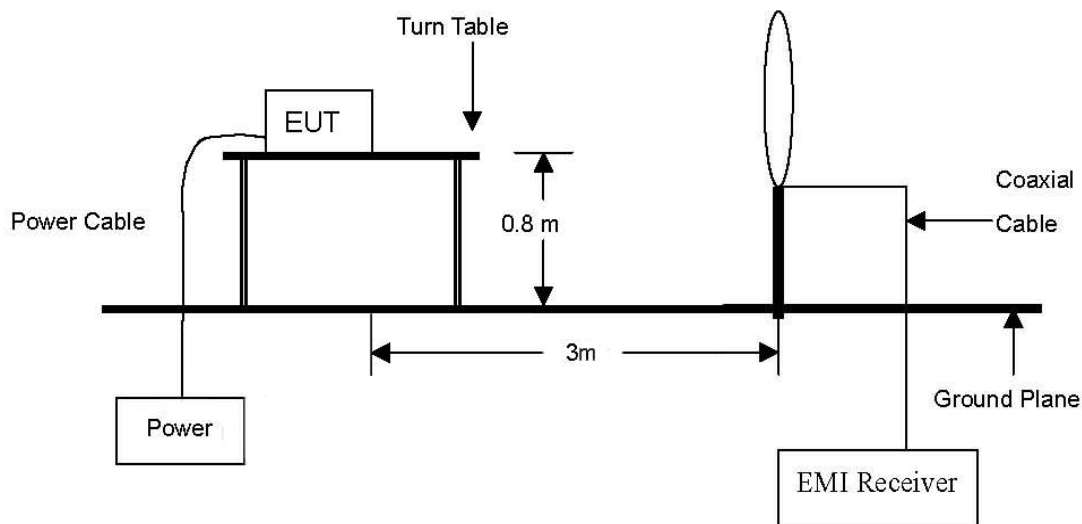


2. Transmitter Radiated Spurious Emissions

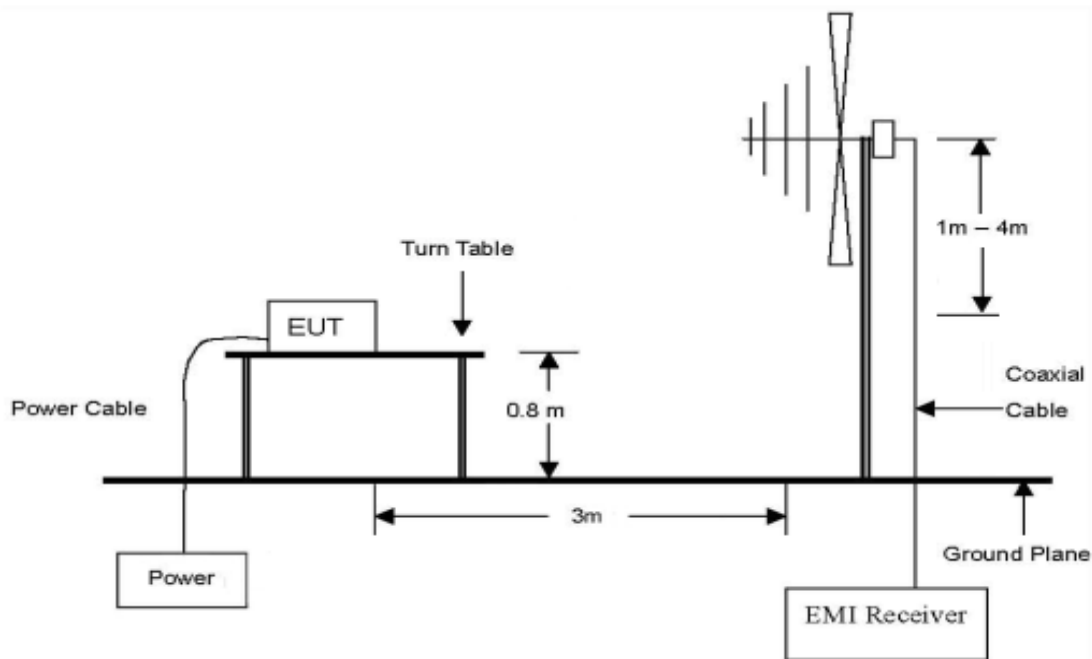
2.1. Test Setup

2.1.1. Transmitter radiated spurious emissions

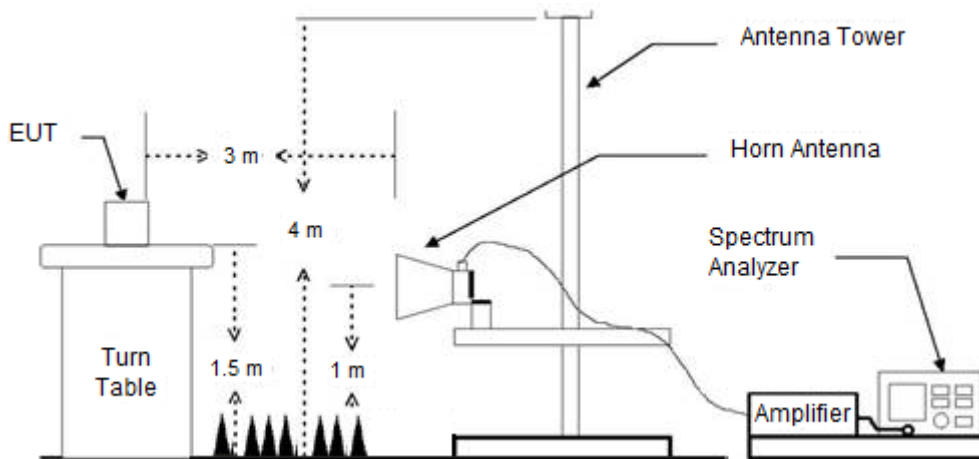
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission. The spurious emissions were investigated from 1 GHz to the 10th harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.



2.2. Limit

According to § 15.407(b)

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dB m/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dB m/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dB m/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
 - (i) All emissions shall be limited to a level of -27 dB m/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dB m/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dB m/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dB m/MHz at the band edge.

According to § 15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (Meters)
0.009-0.490	2 400/F(kHz)	300
0.490-1.705	24 000/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

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

2.3. Test Procedures

Radiated spurious emissions from the EUT were measured according to the dictates in section G of KDB 789033 D02 General UNII Test Procedures New Rules v02r01 and ANSI C63.10-2013.

2.3.1. Test Procedures for emission below 30 MHz

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.

2.3.2. Test Procedures for emission from above 30 MHz

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site below 1 GHz and 1.5 meter above the ground at a 3 meter anechoic chamber test site above 1 GHz. The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meter away from the interference-receiving antenna.
3. The antenna is a bi-log antenna, a horn antenna and its 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.
4. 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 and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. For measurements below 1 GHz resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.
6. For measurements Above 1 GHz resolution bandwidth is set to 1 MHz, the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

- II.G.4. Unwanted emissions measurements below 1 GHz.

Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

- II.G.5. Unwanted maximum emissions measurements above 1 GHz.

Peak emission levels are measured by setting the analyzer as follows:

Set to RBW = 1 MHz, VBW ≥ 3 MHz, Detector = Peak, Sweep time = auto, Trace mode = Max hold.

- II.G.6. Average unwanted emissions measurements above 1 GHz.

Set to RBW = 1 MHz, VBW ≥ 3 MHz, Detector = power averaging (rms), Averaging type = power averaging (rms), Sweep time = auto, Perform a trace average of at least 100 traces. If the transmission is continuous, If the transmission is not continuous, the number of traces shall be increased by a factor of 1/x, where x is the duty cycle. For example, with 50 % duty cycle, at least 200 traces shall be averaged.

If tests are performed with the EUT transmitting at a duty cycle less than 98 %, a correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 % duty cycle. The correction factor is computed as follows:

- If power averaging (rms) mode was used in II.G.6.c)(iv), the correction factor is $10 \log (1 / x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50 %, then 3 dB must be added to the measured emission levels.

- The test orthogonal plan of EUT was investigated with three axis described in the test setup photo.

The X-axis was worst-case, all radiated testing of EUT was performed with X-axis.

2.4. Test Result

Ambient temperature : (23 ± 1) °C
Relative humidity : 47 % R.H.

2.4.1. Radiated Spurious Emission below 1 000 MHz

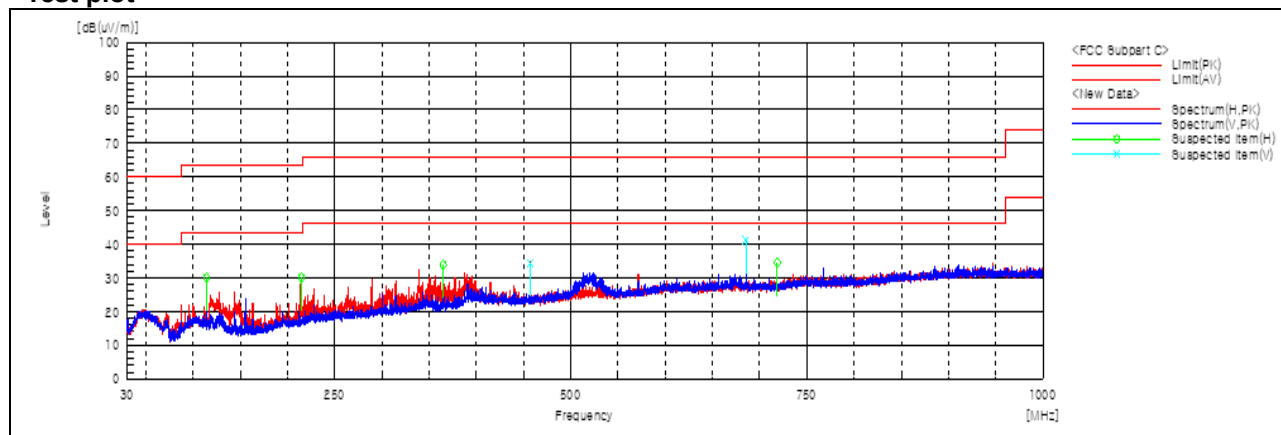
The frequency spectrum from 9 MHz to 1 000 MHz was investigated. All reading values are peak values.

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
114.27	40.00	Peak	H	16.57	-26.43	30.14	43.50	13.36
214.91	39.10	Peak	H	16.60	-25.49	30.21	43.50	13.29
365.01	38.20	Peak	H	20.40	-24.75	33.85	46.00	12.15
457.16	37.50	Peak	V	21.94	-25.15	34.29	46.00	11.71
685.72	41.00	Peak	V	25.20	-24.94	41.26	46.00	4.74
718.70	33.70	Peak	H	25.57	-24.77	34.50	46.00	11.50
Above 800.00	Not detected	-	-	-	-	-	-	-

Remark;

- Spurious emissions for all channels and modes were investigated and almost the same below 1 GHz.
- Reported spurious emissions are in **11a (Band 2A) / 9Mbps / High channel** as worst case among other modes.
- Radiated spurious emission measurement as below.
(Actual = Reading + AF + AMP + CL)
- According to §15.31(o), emission levels are not report much lower than the limits by over 20 dB.

- Test plot



2.4.2. Radiated Spurious Emission above 1 000 MHz

OFDM: 802.11a (Band 1)

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*4 500.00	39.73	Peak	H	31.90	-30.98	-	40.65	74.00	33.35
*4 500.00	29.22	Average	H	31.90	-30.98	0.31	30.45	54.00	23.55
*5 144.41	47.88	Peak	H	33.49	-30.30	-	51.07	74.00	22.93
*5 149.15	36.90	Average	H	33.50	-30.30	0.31	40.41	54.00	13.59
*5 150.00	47.62	Peak	H	33.50	-30.30	-	50.82	74.00	23.18
*5 150.00	36.71	Average	H	33.50	-30.30	0.31	40.22	54.00	13.78

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 538.12	42.86	Peak	V	39.98	-24.95	-	57.89	74.00	16.11
*15 541.44	27.32	Average	V	39.98	-24.97	0.31	42.64	54.00	11.36
Above 15 600.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 220 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 656.84	41.59	Peak	V	40.20	-24.79	-	57.00	74.00	17.00
*15 660.32	26.58	Average	V	40.20	-24.79	0.31	42.30	54.00	11.70
Above 15 700.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 240 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 716.88	42.57	Peak	V	40.23	-24.53	-	58.27	74.00	15.73
*15 723.24	26.54	Average	V	40.25	-24.45	0.31	<u>42.65</u>	54.00	11.35
Above 15 800.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11a (Band 2A)

A. Low Channel (5 260 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 779.92	45.68	Peak	V	40.30	-24.53	-	61.45	74.00	12.55
*15 778.60	29.57	Average	V	40.30	-24.53	0.31	45.65	54.00	8.35
Above 15 800.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 300 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 900.92	45.15	Peak	V	40.40	-25.19	-	60.36	74.00	13.64
*15 905.84	29.10	Average	V	40.40	-25.07	0.31	44.74	54.00	9.26
Above 16 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 320 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	48.91	Peak	H	34.10	-30.05	-	52.96	74.00	21.04
*5 350.00	39.05	Average	H	34.10	-30.05	0.31	43.41	54.00	10.59
*5 358.88	48.91	Peak	H	34.10	-30.13	-	52.88	74.00	21.12
*5 350.69	38.87	Average	H	34.10	-30.06	0.31	43.22	54.00	10.78
*5 460.00	40.35	Peak	H	34.00	-29.76	-	44.59	74.00	29.41
*5 460.00	31.04	Average	H	34.00	-29.76	0.31	35.59	54.00	18.41

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 958.68	44.65	Peak	V	40.40	-24.74	-	60.31	74.00	13.69
*15 959.28	28.64	Average	V	40.40	-24.74	0.31	44.61	54.00	9.39
Above 16 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11a (Band 2C)

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	37.76	Peak	H	34.10	-30.05	-	41.81	74.00	32.19
*5 350.00	29.65	Average	H	34.10	-30.05	0.31	34.01	54.00	19.99
*5 455.88	46.15	Peak	H	34.00	-29.69	-	50.46	74.00	23.54
*5 456.63	36.13	Average	H	34.00	-29.70	0.31	40.74	54.00	13.26
*5 460.00	44.88	Peak	H	34.00	-29.76	-	49.12	74.00	24.88
*5 460.00	35.52	Average	H	34.00	-29.76	0.31	40.07	54.00	13.93

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 580 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
16 738.25	38.94	Peak	H	41.58	-23.96	-	56.56	68.23	11.67
Above 16 800.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 700 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 725.00	49.83	Peak	H	34.05	-35.15		48.73	68.23	19.50
5 733.64	49.27	Peak	H	34.03	-35.13		48.17	68.23	20.06

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11a (Band 3)

A. Low Channel (5 745 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 646.33	42.78	Peak	H	34.00	-29.58	47.20	68.23	21.03
5 691.43	47.31	Peak	H	34.00	-29.54	51.77	98.89	47.12
5 707.42	47.84	Peak	H	34.00	-29.70	52.14	107.31	55.17
5 725.00	52.29	Peak	H	34.00	-29.90	56.39	122.23	65.84

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 234.64	41.00	Peak	V	42.24	-23.49	-	59.75	68.23	8.48
Above 17 300.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 785 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 352.24	42.42	Peak	V	42.61	-23.96	-	61.07	68.23	7.16
Above 17 400.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 825 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 850.00	45.94	Peak	H	34.20	-29.01	51.13	122.23	71.10
5 855.00	45.82	Peak	H	34.22	-29.01	51.03	110.83	59.80
5 876.10	44.58	Peak	H	34.30	-29.04	49.84	104.41	54.57
5 925.00	41.24	Peak	H	34.45	-28.87	46.82	68.23	21.41

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 476.40	41.21	Peak	V	43.05	-23.95	-	60.31	68.23	7.92
Above 17 500.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (Band 1)

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*4 500.00	40.07	Peak	H	31.90	-30.98	-	40.99	74.00	33.01
*4 500.00	29.69	Average	H	31.90	-30.98	0.42	31.03	54.00	22.97
*5 149.15	50.09	Peak	H	33.50	-30.30	-	53.29	74.00	20.71
*5 145.99	38.02	Average	H	33.49	-30.30	0.42	41.63	54.00	12.37
*5 150.00	49.74	Peak	H	33.50	-30.30	-	52.94	74.00	21.06
*5 150.00	38.03	Average	H	33.50	-30.30	0.42	41.65	54.00	12.35

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 538.60	42.66	Peak	V	39.98	-24.95	-	57.69	74.00	16.31
*15 540.24	27.29	Average	V	39.98	-24.96	0.42	42.73	54.00	11.27
Above 15 600.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 220 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 665.44	41.06	Peak	V	40.20	-24.81	-	56.45	74.00	17.55
*15 660.20	25.56	Average	V	40.20	-24.79	0.42	41.39	54.00	12.61
Above 15 700.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 240 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 712.84	42.05	Peak	V	40.23	-24.58	-	57.70	74.00	16.30
*15 723.20	26.20	Average	V	40.25	-24.45	0.42	42.42	54.00	11.58
Above 15 800.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (Band 2A)

A. Low Channel (5 260 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*15 778.36	44.69	Peak	V	40.30	-24.53	-	60.46	74.00	13.54
*15 781.88	28.62	Average	V	40.30	-24.52	0.42	44.82	54.00	9.18
Above 15 800.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 300 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*15 898.24	48.24	Peak	V	40.40	-25.16	-	63.48	74.00	10.52
*15 901.84	29.54	Average	V	40.40	-25.17	0.42	45.19	54.00	8.81
Above 16 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 320 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	48.81	Peak	H	34.10	-30.05	-	52.86	74.00	21.14
*5 350.00	38.84	Average	H	34.10	-30.05	0.42	43.31	54.00	10.69
*5 356.36	50.36	Peak	H	34.10	-30.11	-	54.35	74.00	19.65
*5 350.27	39.44	Average	H	34.10	-30.05	0.42	43.91	54.00	10.09
*5 460.00	40.20	Peak	H	34.00	-29.76	-	44.44	74.00	29.56
*5 460.00	31.07	Average	H	34.00	-29.76	0.42	35.73	54.00	18.27

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*15 966.60	43.66	Peak	V	40.40	-24.75	-	59.31	74.00	14.69
*15 960.96	27.94	Average	V	40.40	-24.74	0.42	44.02	54.00	9.98
Above 16 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (Band 2C)

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	39.13	Peak	H	34.10	-30.05	-	43.18	74.00	30.82
*5 350.00	29.93	Average	H	34.10	-30.05	0.42	34.40	54.00	19.60
*5 452.13	46.72	Peak	H	34.00	-29.63	-	51.09	74.00	22.91
*5 458.13	35.05	Average	H	34.00	-29.73	0.42	39.74	54.00	14.26
*5 460.00	43.71	Peak	H	34.00	-29.76	-	47.95	74.00	26.05
*5 460.00	34.67	Average	H	34.00	-29.76	0.42	39.33	54.00	14.67

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 580 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
16 740.30	37.68	Peak	H	41.58	-23.91	-	<u>55.35</u>	68.23	12.88
Above 16 800.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 700 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 725.00	48.54	Peak	H	34.05	-35.15		47.44	68.23	20.79
5 725.12	48.52	Peak	H	34.05	-35.15		47.42	68.23	20.81

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT20 (Band 3)

A. Low Channel (5 745 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 619.07	42.50	Peak	H	34.00	-29.65	46.85	68.23	21.38
5 691.64	46.45	Peak	H	34.00	-29.54	50.91	99.04	48.13
5 705.17	47.35	Peak	H	34.00	-29.67	51.68	106.68	55.00
5 724.85	52.78	Peak	H	34.00	-29.90	56.88	121.89	65.01

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 239.00	40.91	Peak	H	42.26	-23.51	-	59.66	68.23	8.57
Above 17 300.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 785 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 349.64	40.97	Peak	H	42.60	-23.95	-	59.62	68.23	8.61
Above 17 400.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 825 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 850.00	46.30	Peak	H	34.20	-29.01	51.49	122.23	70.74
5 860.23	45.21	Peak	H	34.24	-29.02	50.43	109.36	58.93
5 875.00	43.69	Peak	H	34.30	-29.03	48.96	105.23	56.27
5 931.99	41.10	Peak	H	34.46	-29.03	46.53	68.23	21.70

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 476.20	41.19	Peak	H	43.05	-23.95	-	<u>60.29</u>	68.23	7.94
Above 17 500.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT40 (Band 1)

A. Low Channel (5 190 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*4 500.00	38.66	Peak	H	31.90	-30.98	-	39.58	74.00	34.42
*4 500.00	29.80	Average	H	31.90	-30.98	2.47	33.19	54.00	20.81
*5 149.94	48.83	Peak	H	33.50	-30.30	-	52.03	74.00	21.97
*5 148.36	36.06	Average	H	33.50	-30.30	2.47	41.73	54.00	12.27
*5 150.00	48.83	Peak	H	33.50	-30.30	-	52.03	74.00	21.97
*5 150.00	35.94	Average	H	33.50	-30.30	2.47	41.61	54.00	12.39

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 230 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT40 (Band 2A)

A. Low Channel (5 270 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 816.20	38.68	Peak	V	40.33	-24.41	-	54.60	74.00	19.40
*15 818.50	25.15	Average	V	40.34	-24.41	2.47	43.55	54.00	10.45
Above 15 900.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 310 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	53.17	Peak	H	34.10	-30.05	-	57.22	74.00	16.78
*5 350.00	40.20	Average	H	34.10	-30.05	2.47	46.72	54.00	7.28
*5 353.84	54.16	Peak	H	34.10	-30.09	-	58.17	74.00	15.83
*5 351.32	41.00	Average	H	34.10	-30.06	2.47	47.51	54.00	6.49
*5 460.00	40.17	Peak	H	34.00	-29.76	-	44.41	74.00	29.59
*5 460.00	31.31	Average	H	34.00	-29.76	2.47	38.02	54.00	15.98

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*15 930.90	38.53	Peak	V	40.40	-24.65	-	54.28	74.00	19.72
*15 921.70	24.68	Average	V	40.40	-24.71	2.47	42.84	54.00	11.16
Above 16 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT40 (Band 2C)

A. Low Channel (5 510 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	38.73	Peak	H	34.10	-30.05	-	42.78	74.00	31.22
*5 350.00	29.45	Average	H	34.10	-30.05	2.47	35.97	54.00	18.03
*5 457.63	45.25	Peak	H	34.00	-29.72	-	49.53	74.00	24.47
*5 458.38	33.30	Average	H	34.00	-29.73	2.47	40.04	54.00	13.96
*5 460.00	43.37	Peak	H	34.00	-29.76	-	47.61	74.00	26.39
*5 460.00	32.61	Average	H	34.00	-29.76	2.47	39.32	54.00	14.68

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

B. Middle Channel (5 550 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

C. High Channel (5 670 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 725.00	45.15	Peak	H	34.05	-35.15		44.05	68.23	24.18
5 729.62	46.52	Peak	H	34.04	-35.14		45.42	68.23	22.81

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT40 (Band 3)

A. Low Channel (5 755 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 650.00	43.27	Peak	H	34.00	-29.57	47.70	68.23	20.53
5 690.41	48.39	Peak	H	34.00	-29.53	52.86	98.13	45.27
5 716.03	52.29	Peak	H	34.00	-29.80	56.49	109.72	53.23
5 724.85	53.03	Peak	H	34.00	-29.90	57.13	121.89	64.76

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 269.08	36.77	Peak	V	42.34	-24.18	-	54.93	68.23	13.30
Above 17 300.00	Not detected	-	-	-	-	-	-	-	-

B. High Channel (5 795 MHz)

Radiated Emissions			Ant.	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 853.56	44.82	Peak	H	34.21	-29.01	50.02	114.11	64.09
5 857.93	44.31	Peak	H	34.23	-29.02	49.52	110.01	60.49
5 883.46	42.45	Peak	H	34.33	-29.11	47.67	98.97	51.30
5 939.12	41.17	Peak	H	34.48	-29.19	46.46	68.23	21.77

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
17 381.72	36.67	Peak	V	42.73	-23.95	-	<u>55.45</u>	68.23	12.78
Above 17 400.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (Band 1)

A. Middle Channel (5 210 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*4 500.00	38.16	Peak	H	31.90	-30.98	-	39.08	74.00	34.92
*4 500.00	29.85	Average	H	31.90	-30.98	0.86	31.63	54.00	22.37
*5 147.57	55.61	Peak	H	33.50	-30.30	-	58.81	74.00	15.19
*5 148.36	43.03	Average	H	33.50	-30.30	0.86	47.09	54.00	6.91
*5 150.00	54.47	Peak	H	33.50	-30.30	-	57.67	74.00	16.33
*5 150.00	43.72	Average	H	33.50	-30.30	0.86	47.78	54.00	6.22

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (Band 2A)

A. Middle Channel (5 290 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*5 350.00	56.10	Peak	H	34.10	-30.05	-	60.15	74.00	13.85
*5 350.00	44.51	Average	H	34.10	-30.05	0.86	49.42	54.00	4.58
*5 350.69	57.49	Peak	H	34.10	-30.06	-	61.53	74.00	12.47
*5 350.90	45.13	Average	H	34.10	-30.06	0.86	50.03	54.00	3.97
*5 460.00	45.43	Peak	H	34.00	-29.76	-	49.67	74.00	24.33
*5 460.00	35.38	Average	H	34.00	-29.76	0.86	40.48	54.00	13.52

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
*15 873.80	36.08	Peak	V	40.40	-24.48	-	52.00	74.00	22.00
Above 15 900.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (Band 2C)

A. Low Channel (5 530 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
*5 350.00	40.47	Peak	H	34.10	-30.05	-	44.52	74.00	29.48
*5 350.00	31.29	Average	H	34.10	-30.05	0.86	36.20	54.00	17.80
*5 454.88	50.67	Peak	H	34.00	-29.68	-	54.99	74.00	19.01
*5 457.63	38.57	Average	H	34.00	-29.72	0.86	43.71	54.00	10.29
*5 460.00	50.58	Peak	H	34.00	-29.76	-	54.82	74.00	19.18
*5 460.00	37.55	Average	H	34.00	-29.76	0.86	42.65	54.00	11.35

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

OFDM: 802.11ac_VHT80 (Band 3)

A. Middle Channel (5 775 MHz)

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
5 629.73	45.80	Peak	H	34.00	-29.60		50.20	68.23	18.03
5 689.38	48.14	Peak	H	34.00	-29.53		52.61	97.37	44.76
5 718.70	53.10	Peak	H	34.00	-29.83		57.27	110.46	53.19
5 724.85	54.37	Peak	H	34.00	-29.90		58.47	121.89	63.42
5 851.03	45.79	Peak	H	34.20	-29.01		50.98	119.88	68.90
5 860.46	45.21	Peak	H	34.24	-29.02		50.43	109.30	58.87
5 876.79	43.80	Peak	H	34.31	-29.05		49.06	103.90	54.84
5 926.70	43.02	Peak	H	34.45	-28.91		48.56	68.23	19.67

Radiated Emissions			Ant.	Correction Factors			Total	Limit	
Frequency (MHz)	Reading (dBμV)	Detect Mode	Pol.	AF (dB/m)	AMP+CL (dB)	DF (dB)	Actual (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

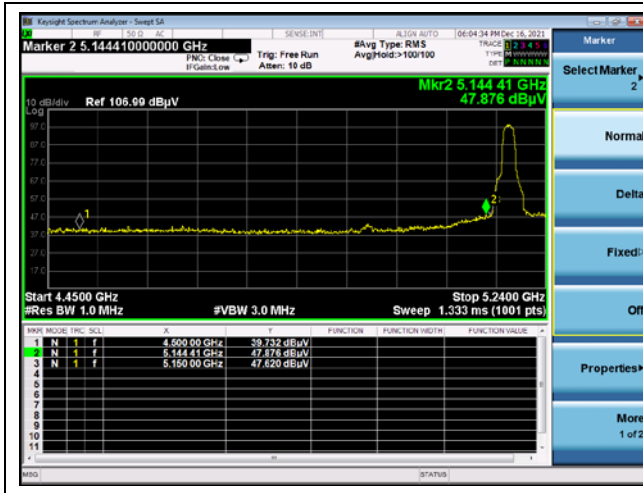
Remark;

1. “*” means the restricted band.
2. Radiated emissions measured in frequency above 1 000 MHz were made with an instrument using Peak / average detector mode if frequency was in restricted band. Otherwise the frequency was out of restricted band, only peak detector should be used.
3. Actual = Reading + AF + AMP + CL + (DF).
4. If frequency was out of restricted band, the calculation method for peak limit is same as below.
 $68.23 \text{ dB}_{\mu\text{V}}/\text{m} = \text{EIRP} - 20 \log(d) + 104.77 = -27 - 20 \log(3) + 104.77$
5. In case of the emissions within $\pm 75 \text{ MHz}$ from band edge of band 3, limit should be adjusted to emission mask of 15.407(4)(i).
6. According to § 15.31(o), emission levels are not reported much lower than the limits by over 20 dB.
7. The maximized peak measured value complies with the average limit, to perform an average measurement is unnecessary.

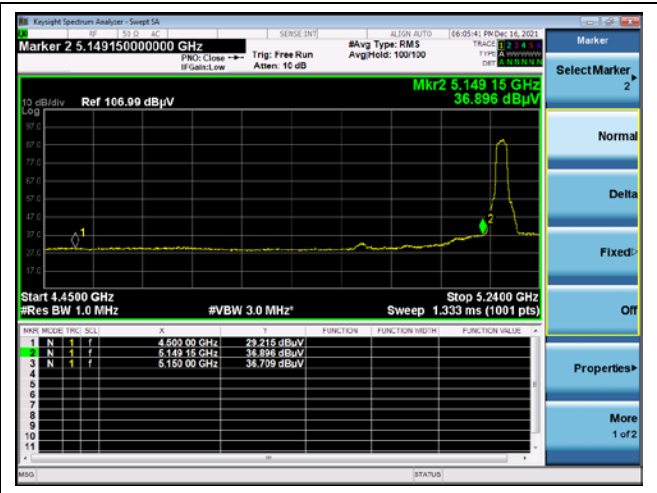
- Test plots

802.11a

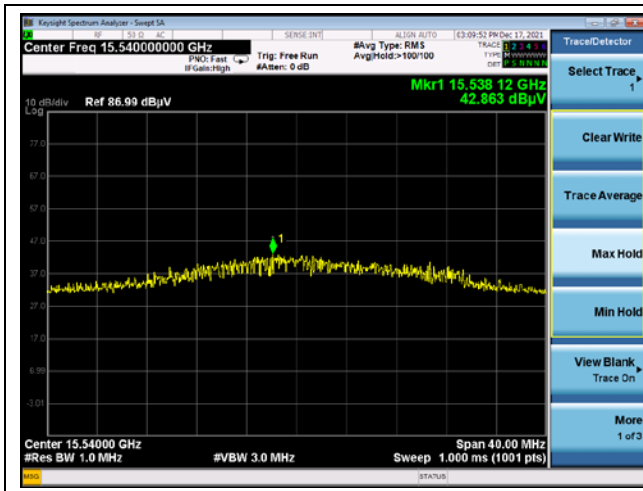
Low channel Band edge (Peak) - Band 1



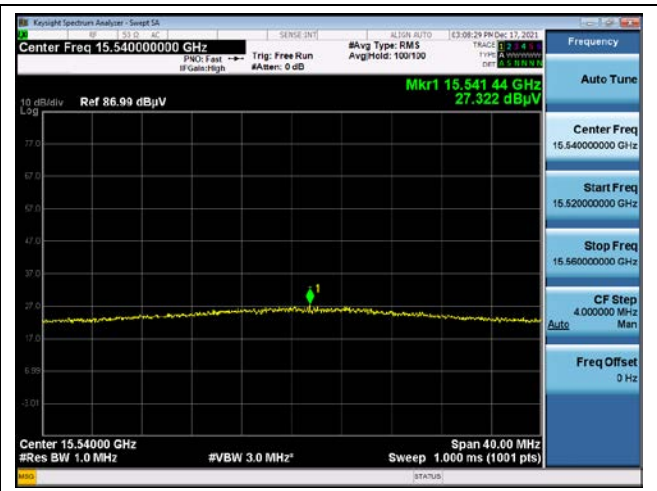
Low channel Band edge (Average) - Band 1



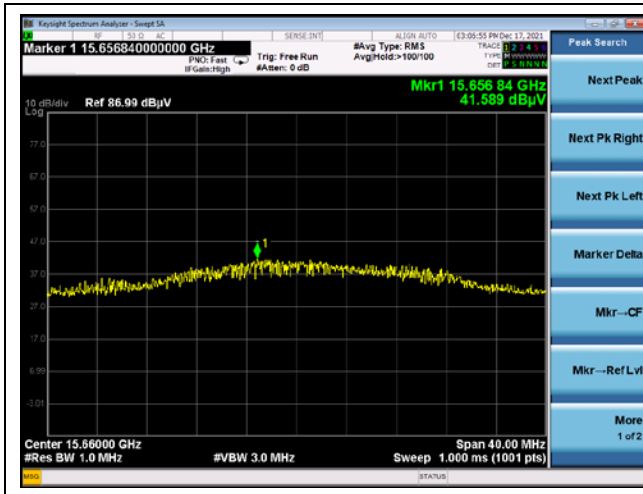
Low channel 3rd harmonic (Peak) - Band 1



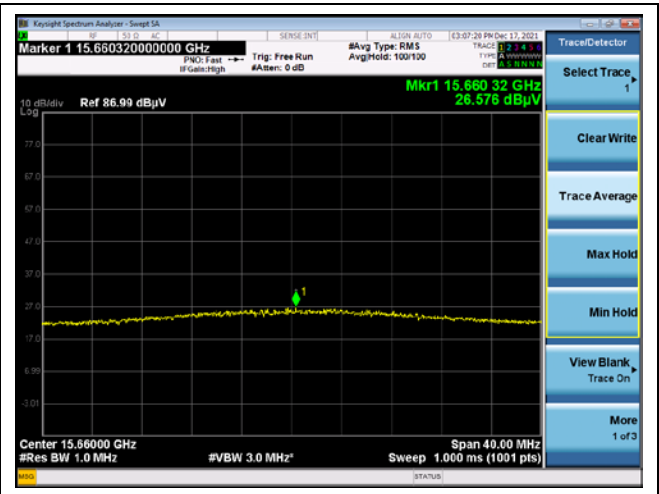
Low channel 3rd harmonic (Average) - Band 1



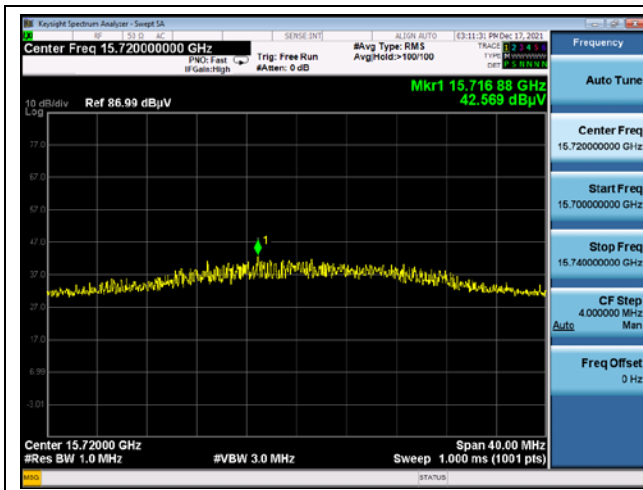
Middle channel 3rd harmonic (Peak) - Band 1



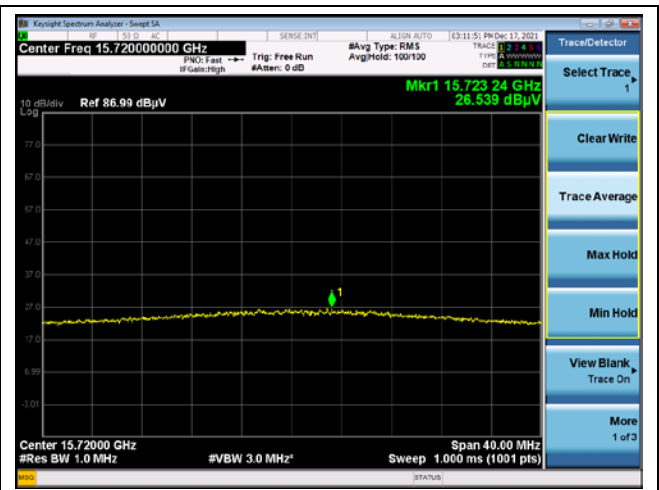
Middle channel 3rd harmonic (Average) - Band 1



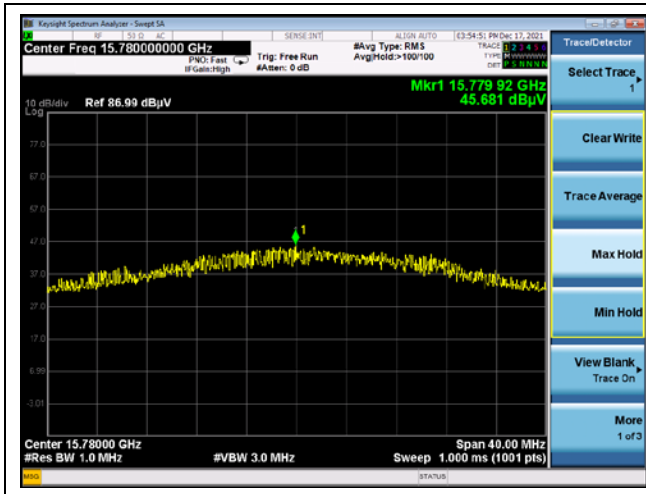
High channel 3rd harmonic (Peak) - Band 1



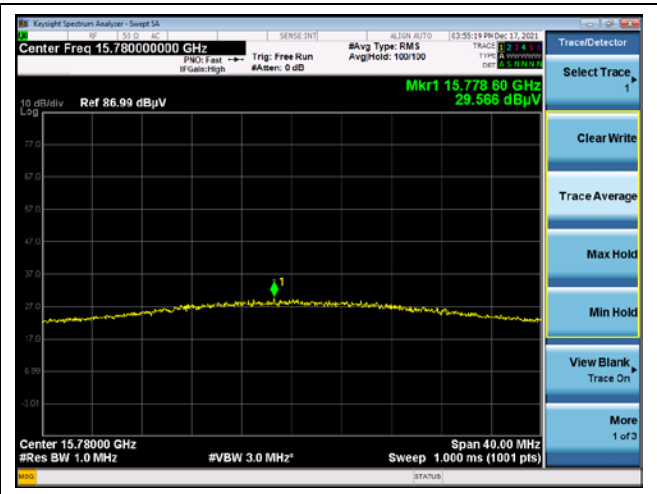
High channel 3rd harmonic (Average) - Band 1



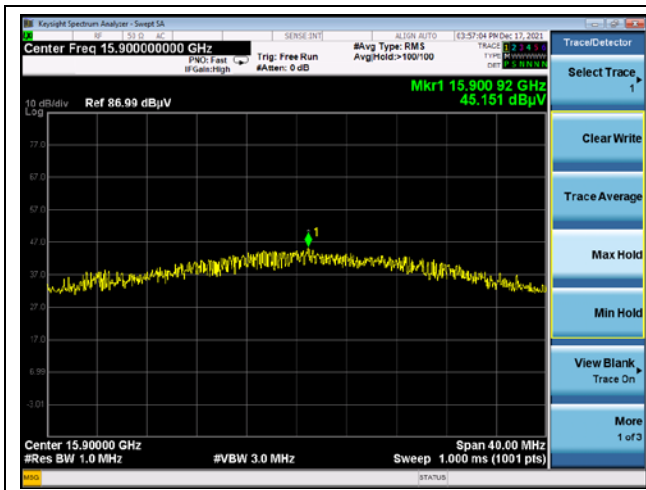
Low channel 3rd harmonic (Peak) - Band 2A



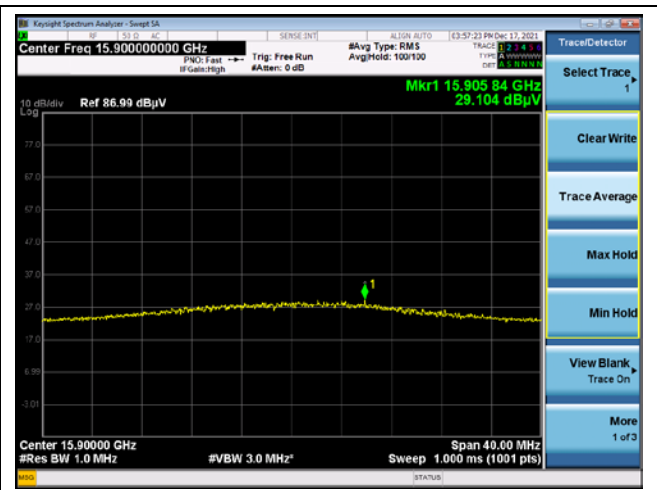
Low channel 3rd harmonic (Average) - Band 2A



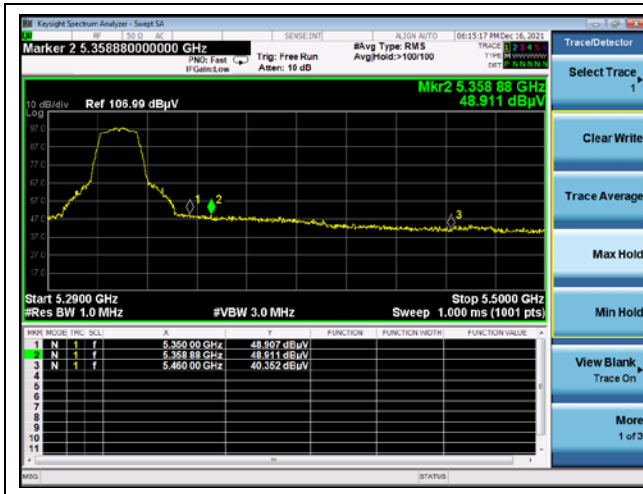
Middle channel 3rd harmonic (Peak) - Band 2A



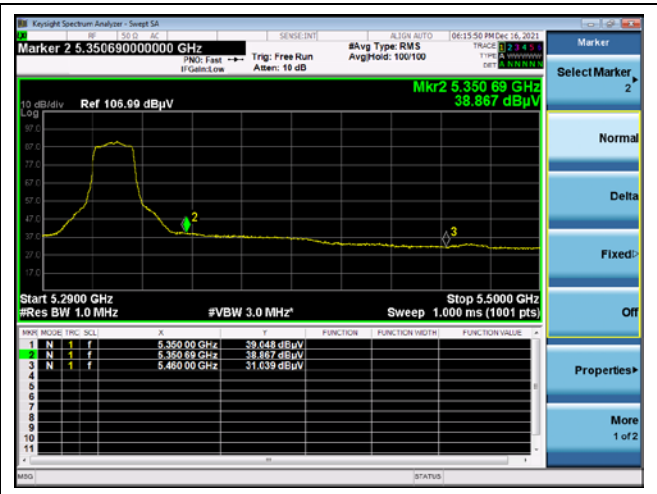
Middle channel 3rd harmonic (Average) - Band 2A



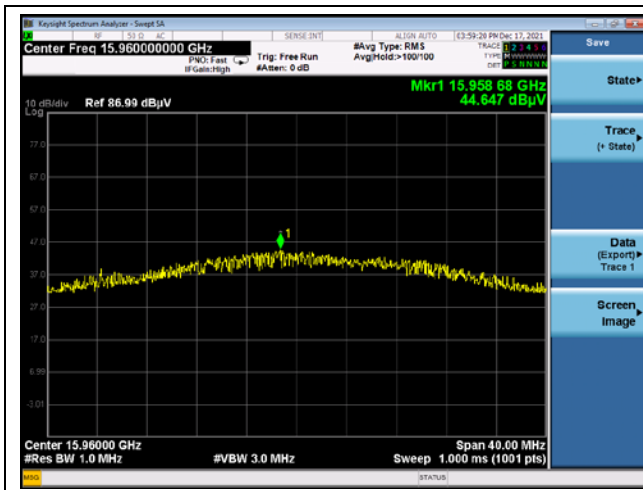
High channel Band edge (Peak) - Band 2A



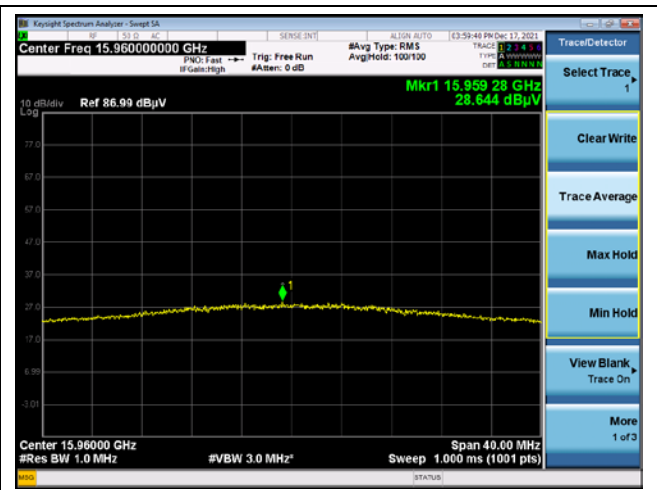
High channel Band edge (Average) - Band 2A



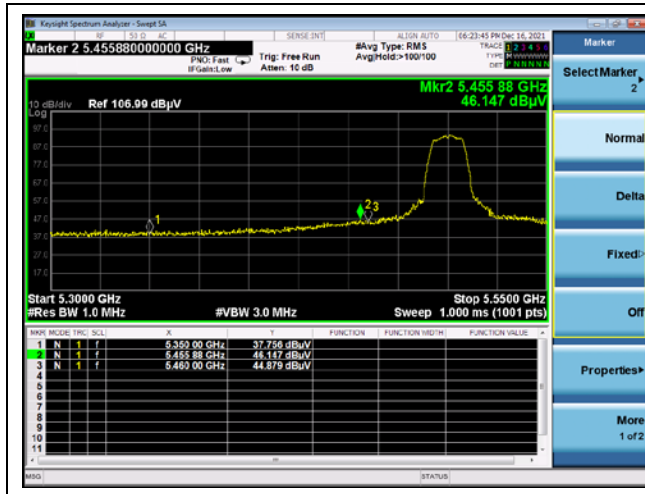
High channel 3rd harmonic (Peak) - Band 2A



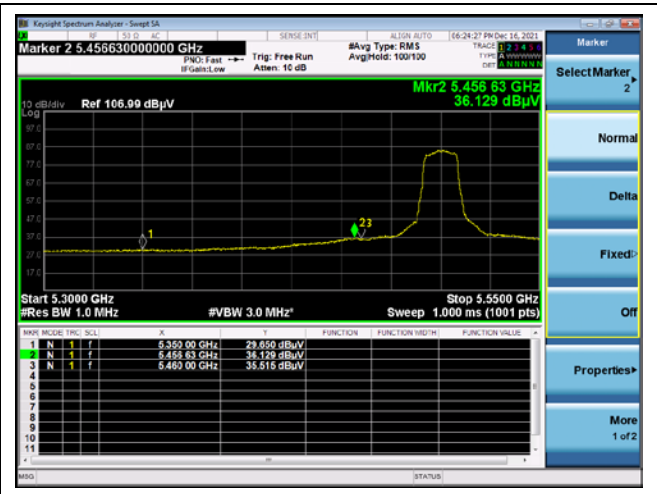
High channel 3rd harmonic (Average) - Band 2A



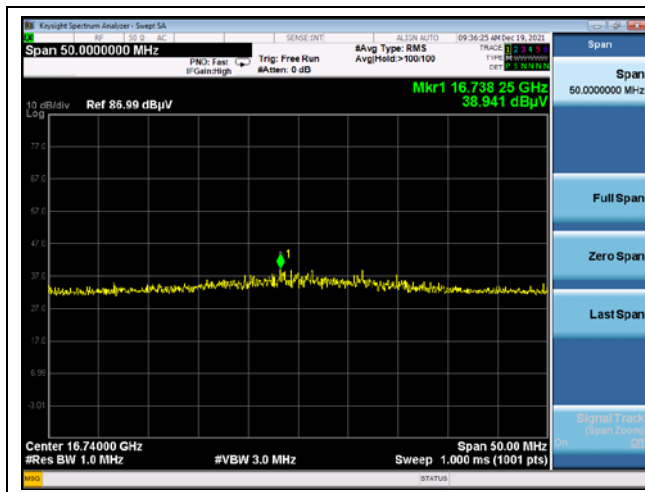
Low channel Band edge (Peak) - Band 2C



Low channel Band edge (Average) - Band 2C



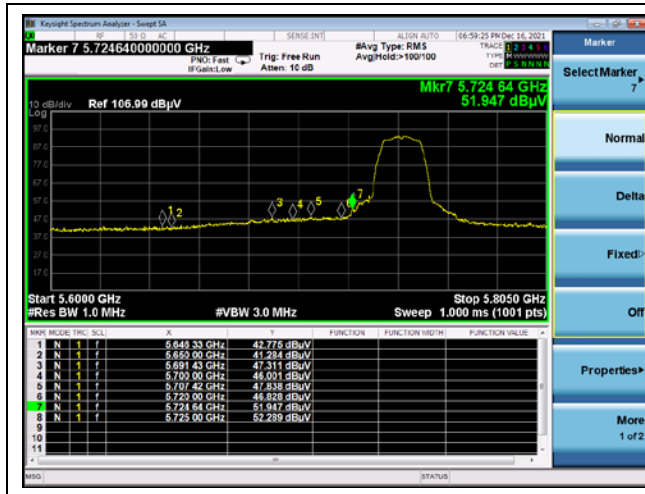
Middle channel 3rd harmonic (Peak) - Band 2C



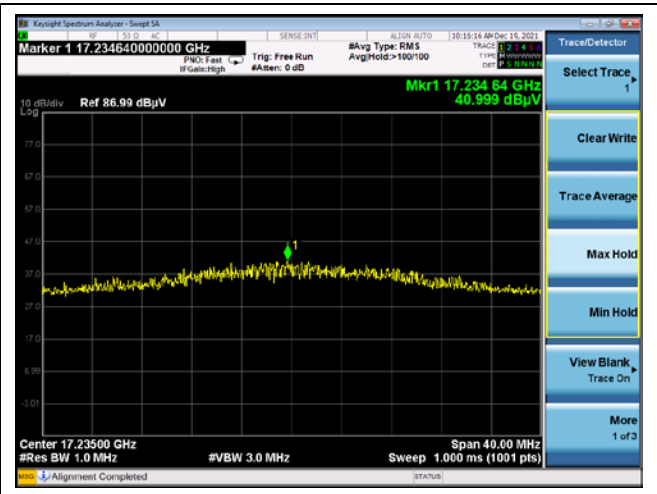
High channel Band edge (Peak) - Band 2C



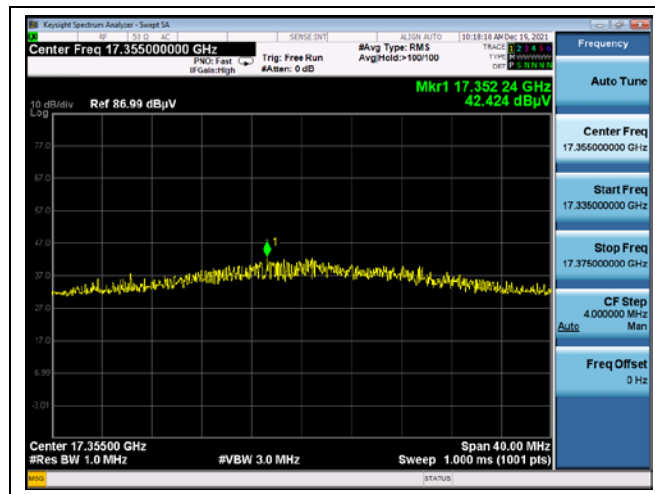
Low channel Band edge (Peak) - Band 3



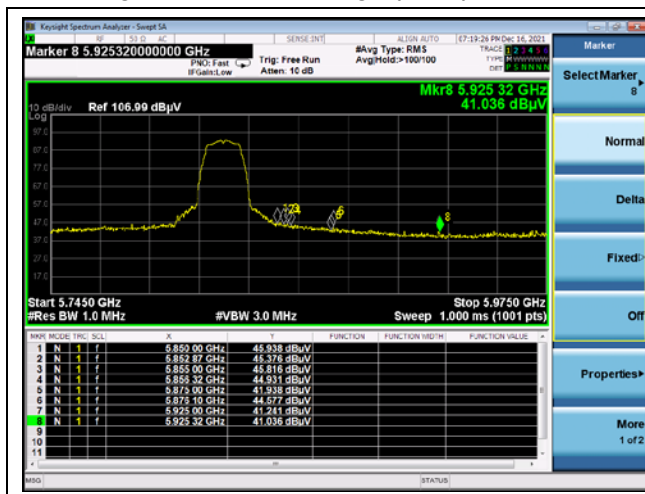
Low channel 3rd harmonic (Peak) - Band 3



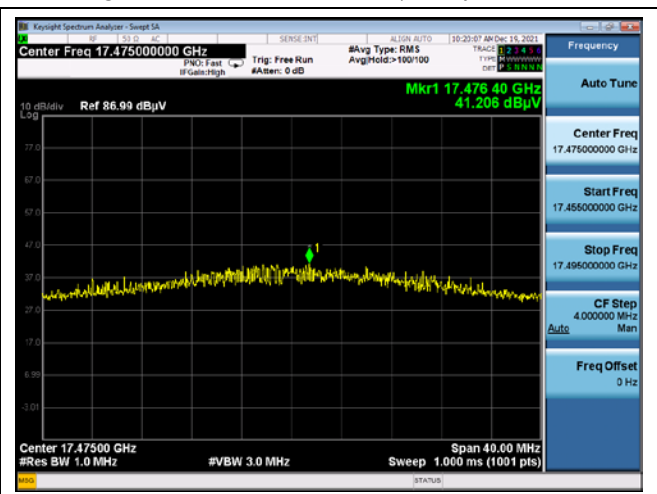
Middle channel 3rd harmonic (Peak) - Band 3



High channel Band edge (Peak) - Band 3

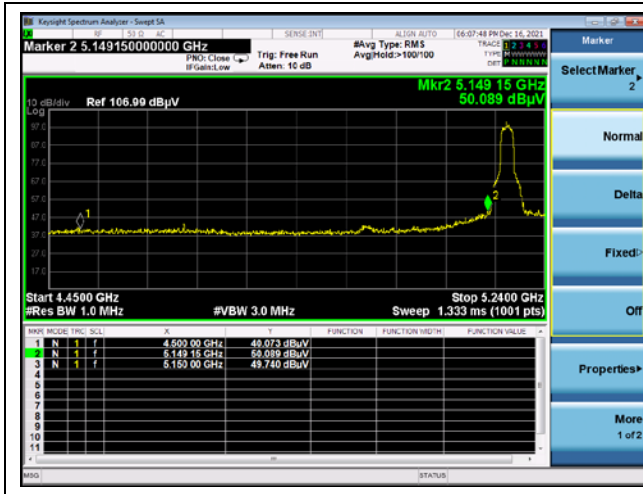


High channel 3rd harmonic (Peak) - Band 3



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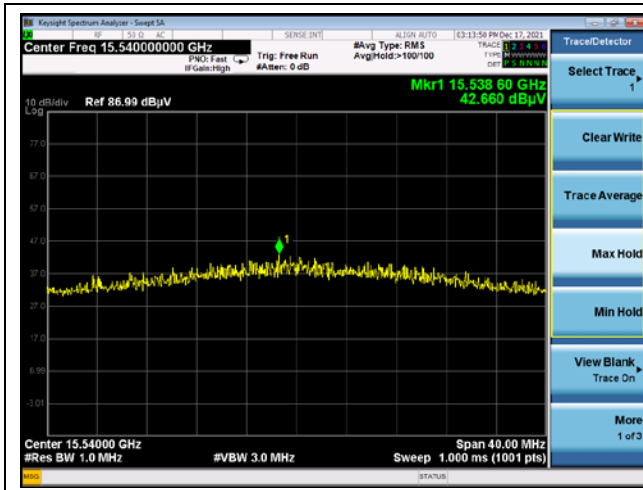
Low channel Band edge (Peak) - Band 1



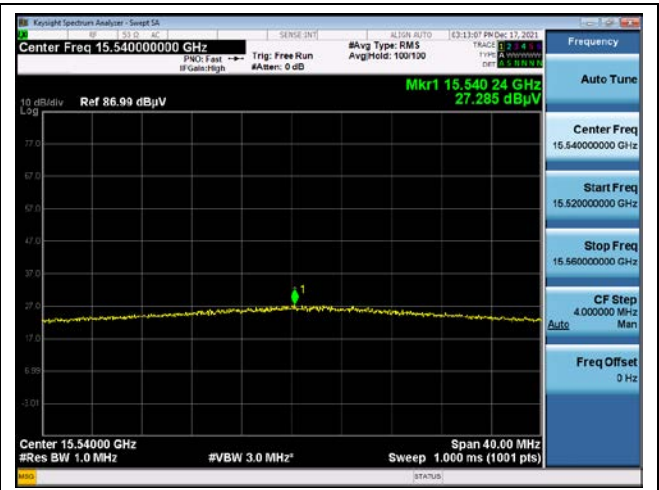
Low channel Band edge (Average) - Band 1



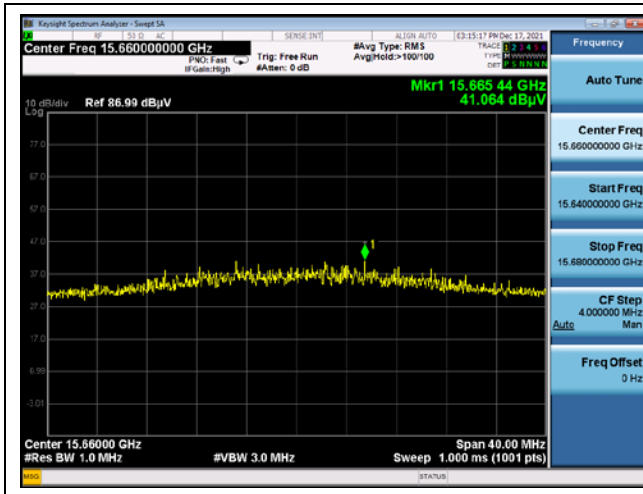
Low channel 3rd harmonic (Peak) - Band 1



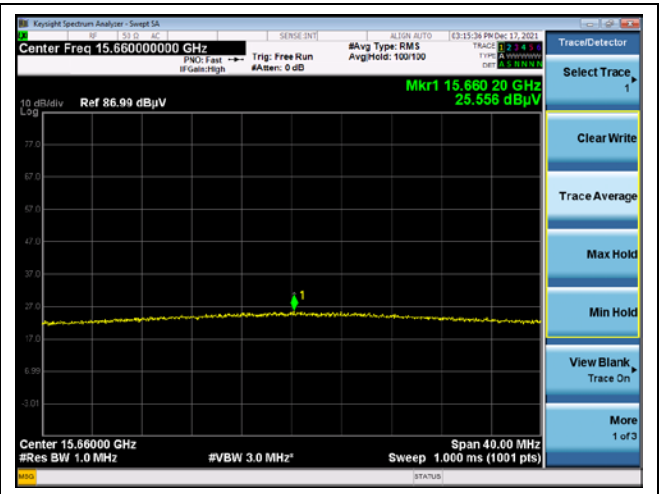
Low channel 3rd harmonic (Average) - Band 1



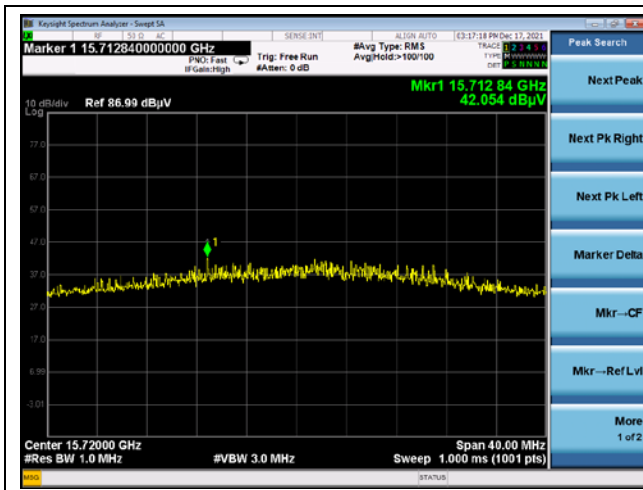
Middle channel 3rd harmonic (Peak) - Band 1



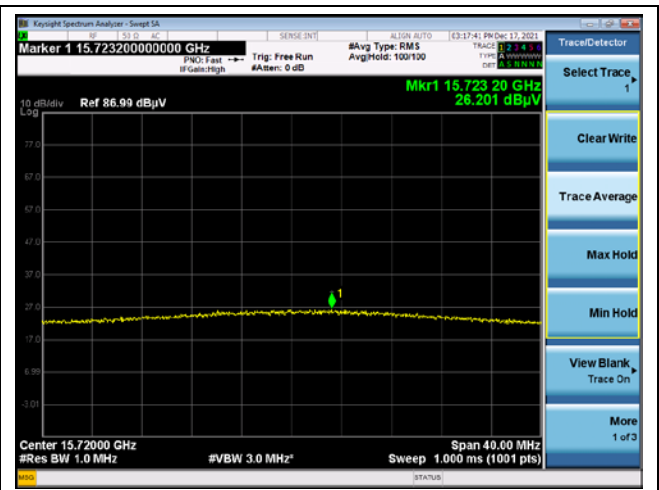
Middle channel 3rd harmonic (Average) - Band 1



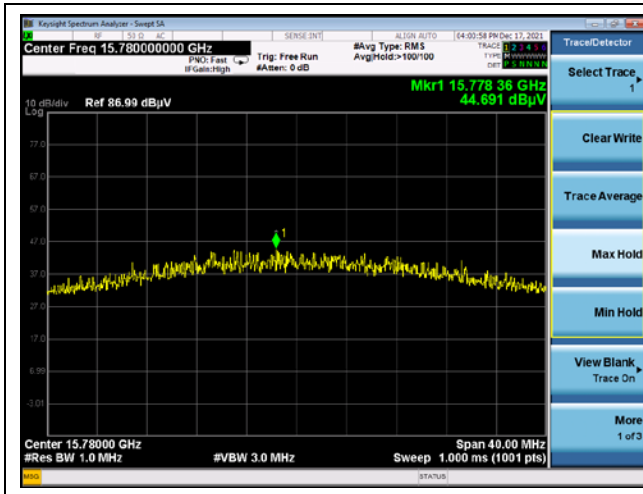
High channel 3rd harmonic (Peak) - Band 1



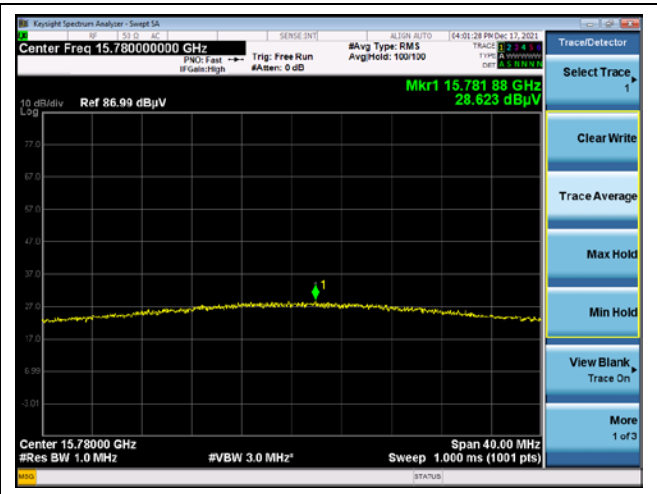
High channel 3rd harmonic (Average) - Band 1



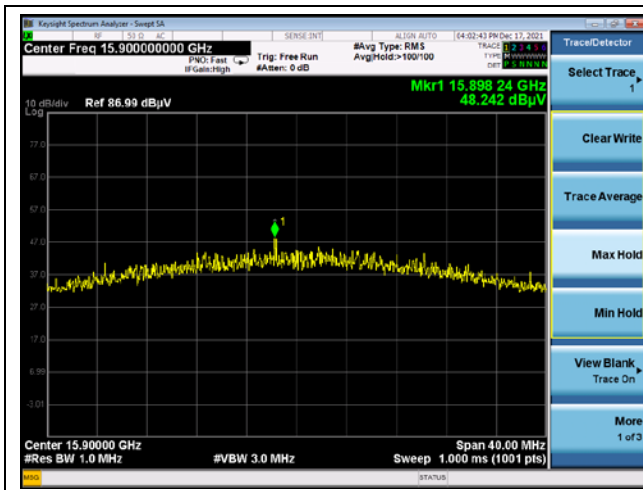
Low channel 3rd harmonic (Peak) - Band 2A



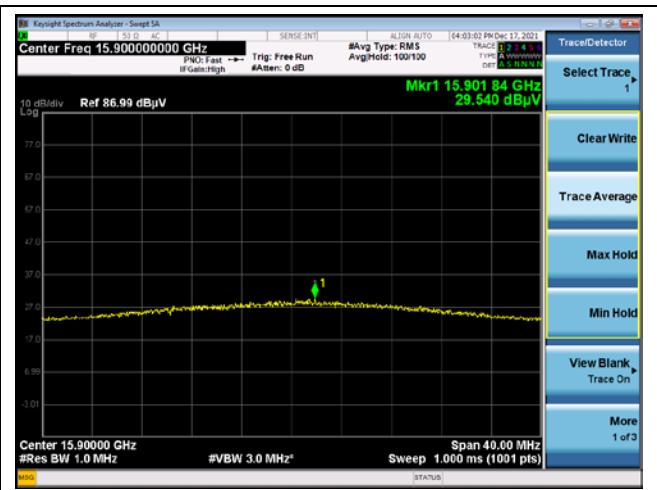
Low channel 3rd harmonic (Average) - Band 2A



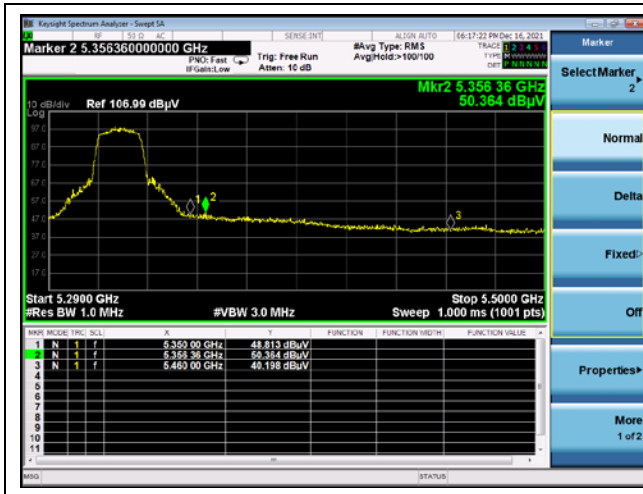
Middle channel 3rd harmonic (Peak) - Band 2A



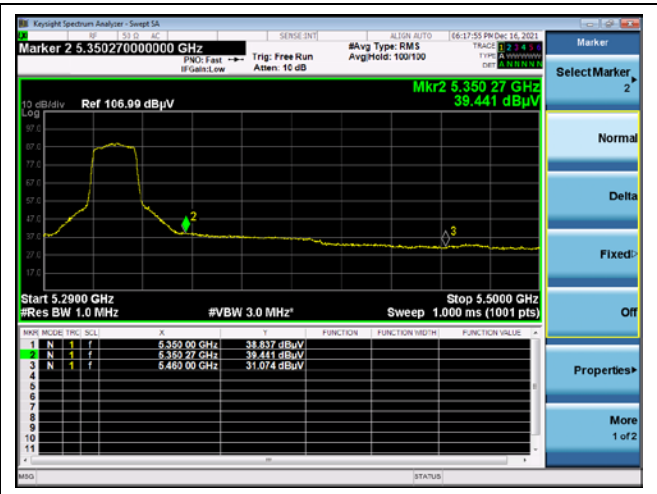
Middle channel 3rd harmonic (Average) - Band 2A



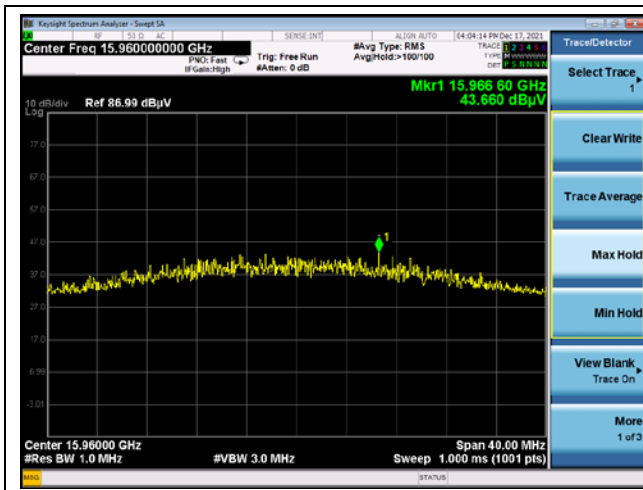
High channel Band edge (Peak) - Band 2A



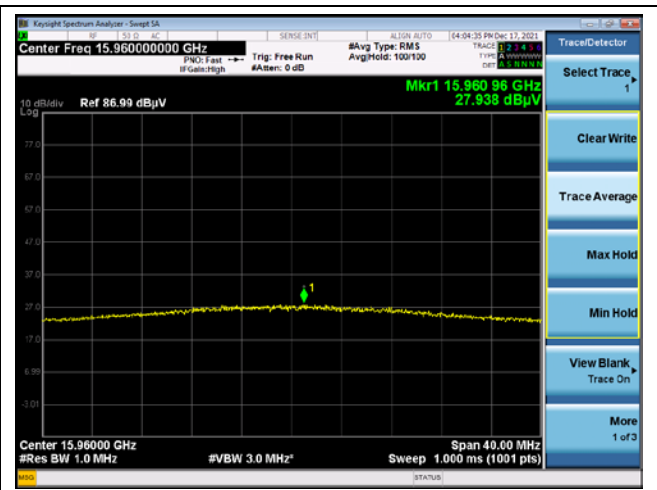
High channel Band edge (Average) - Band 2A



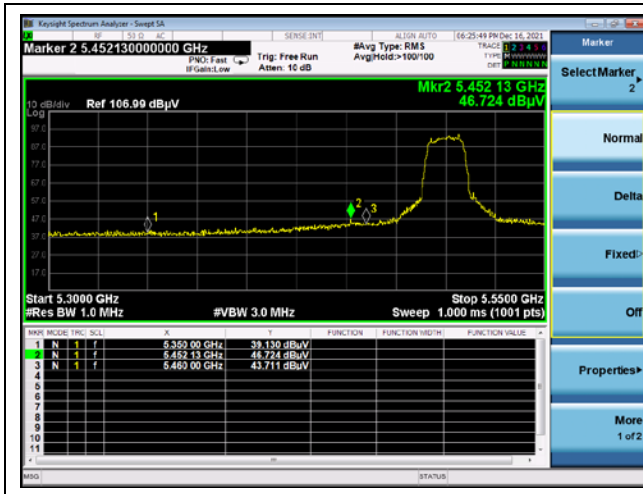
High channel 3rd harmonic (Peak) - Band 2A



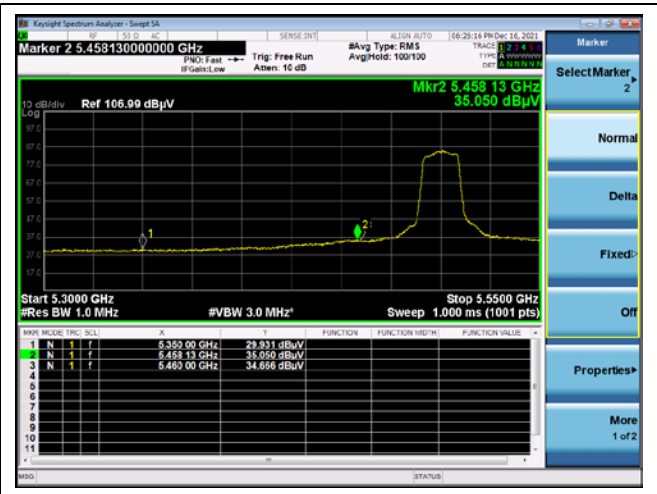
High channel 3rd harmonic (Average) - Band 2A



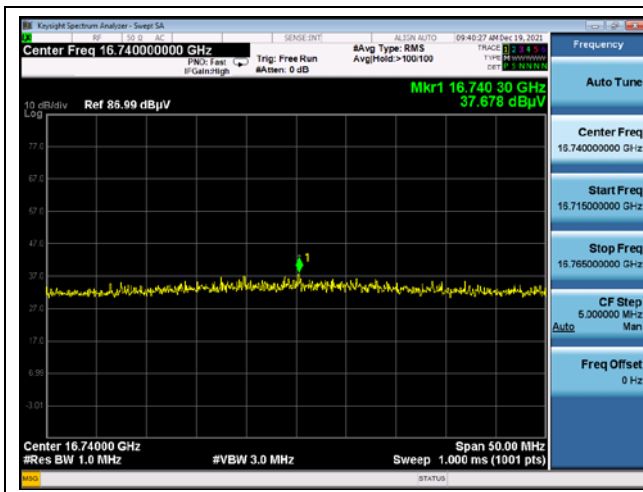
Low channel Band edge (Peak) - Band 2C



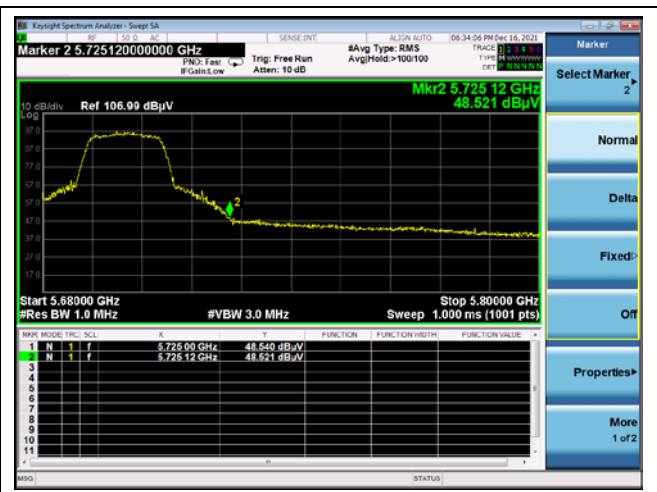
Low channel Band edge (Average) - Band 2C



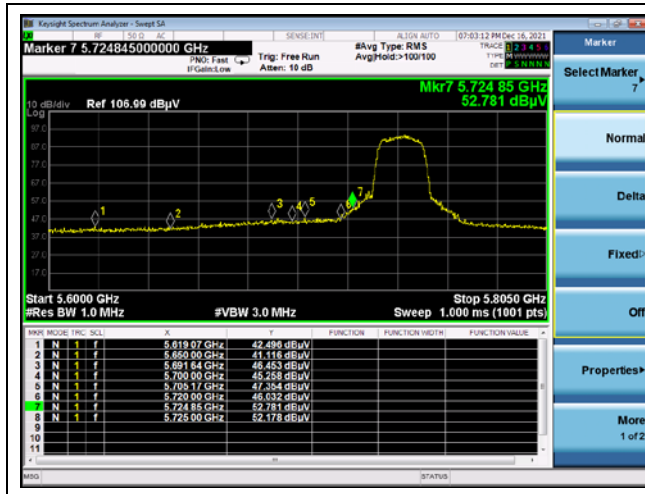
Middle channel 3rd harmonic (Peak) - Band 2C



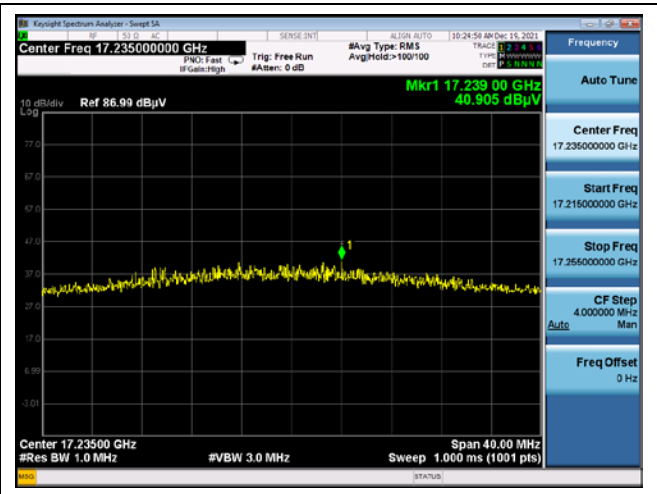
High channel Band edge (Peak) - Band 2C



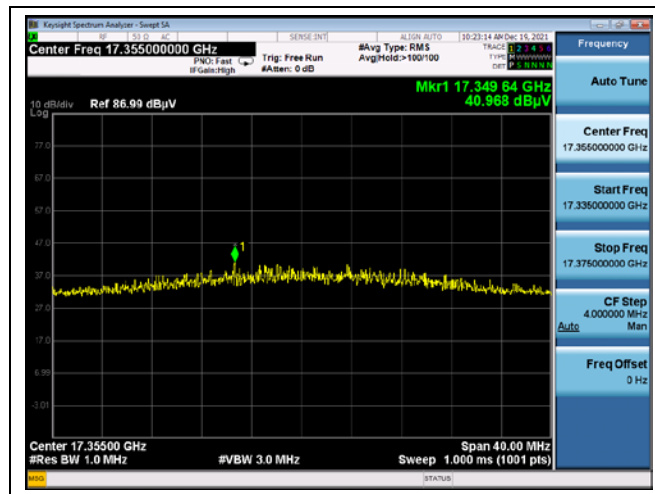
Low channel Band edge (Peak) - Band 3



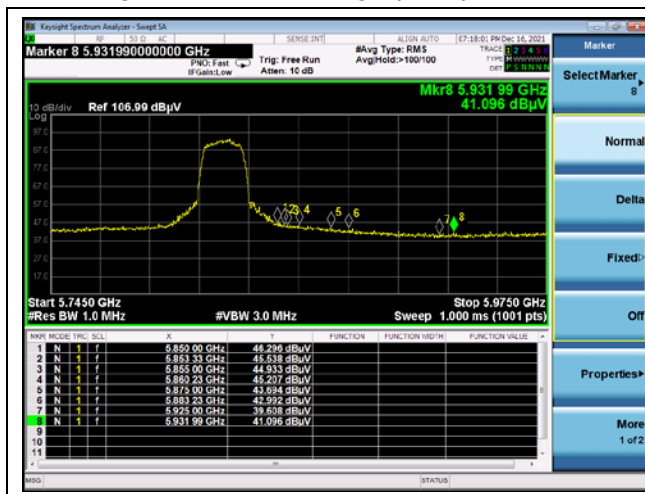
Low channel 3rd harmonic (Peak) - Band 3



Middle channel 3rd harmonic (Peak) - Band 3



High channel Band edge (Peak) - Band 3



High channel 3rd harmonic (Peak) - Band 3

