

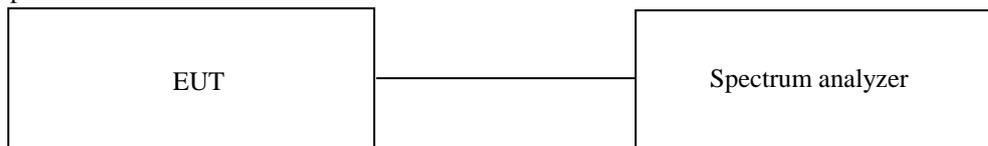
12. 100 kHz BANDWIDTH OUTSIDE THE FREQUENCY BAND

12.1 Operating environment

Temperature : 23 °C
 Relative humidity : 45 % R.H.

12.2 Test set-up for conducted measurement

The antenna output of the EUT was connected to the spectrum analyzer. The resolution and video bandwidth is set to 100 kHz, and peak detection was used.



12.3 Test set-up for radiated measurement

The radiated emissions measurements were performed on the 10 m semi anechoic chamber. The EUT was placed on turntable approximately 1.5 m above the ground plane.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

12.4 Test equipment used

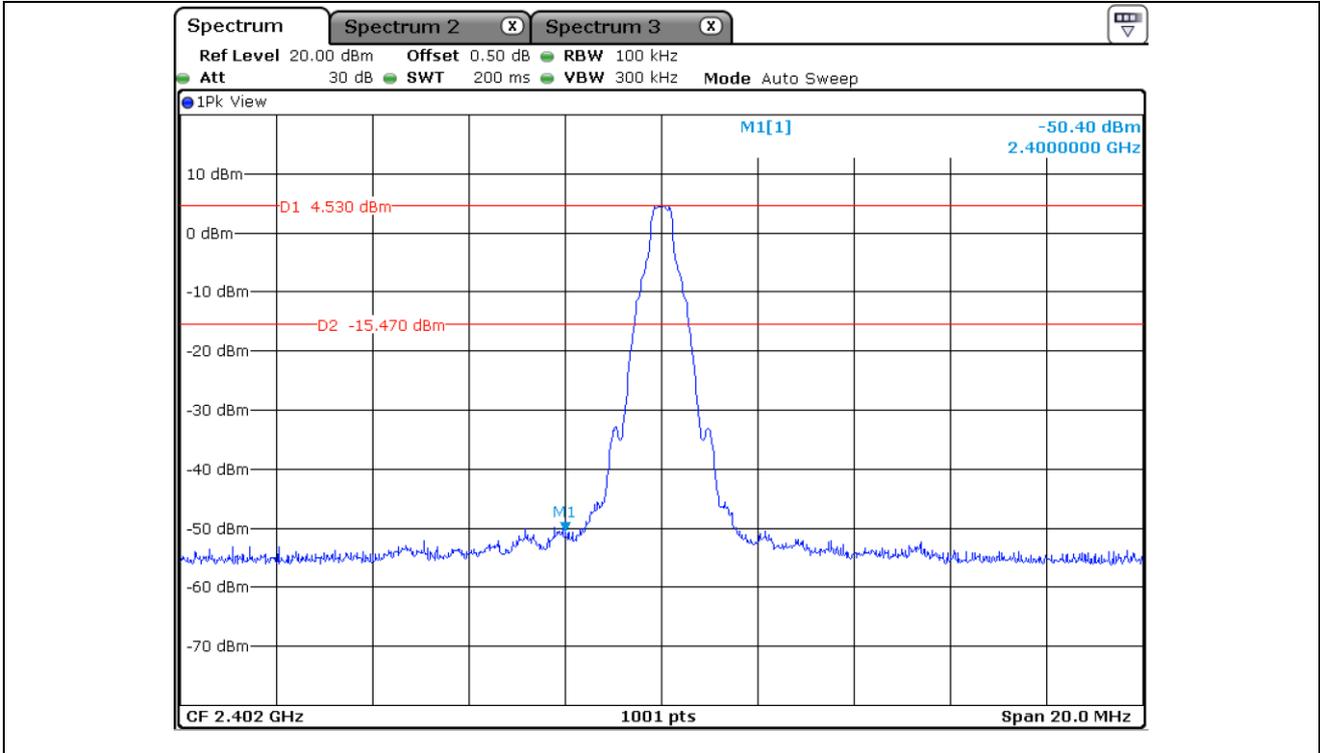
Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ - FSV40	Rohde & Schwarz	Signal Analyzer	101009	Feb. 21, 2020 (1Y)
■ - ESW	Rohde & Schwarz	EMI Test Receiver	101851	Aug. 07, 2019 (1Y)
■ - 310N	Sonoma Instrument	Pre-Amplifier	312544	Mar. 16, 2020 (1Y)
■ - BBV 9718 B	Schwarzbeck	Broadband Preamplifier	00009	Mar. 16, 2020 (1Y)
■ - SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Feb. 20, 2020 (1Y)
■ - SCU18	Rohde & Schwarz	Signal Conditioning unit	102266	Jul. 24, 2019(1Y)
■ - DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
■ - MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
■ - VULB9163	Schwarzbeck	TRILOG Broadband Antenna	777	Apr. 08, 2020 (2Y)
■ - BBHA9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 16, 2019 (1Y)
■ - BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 07, 2020(1Y)

All test equipment used is calibrated on a regular basis.

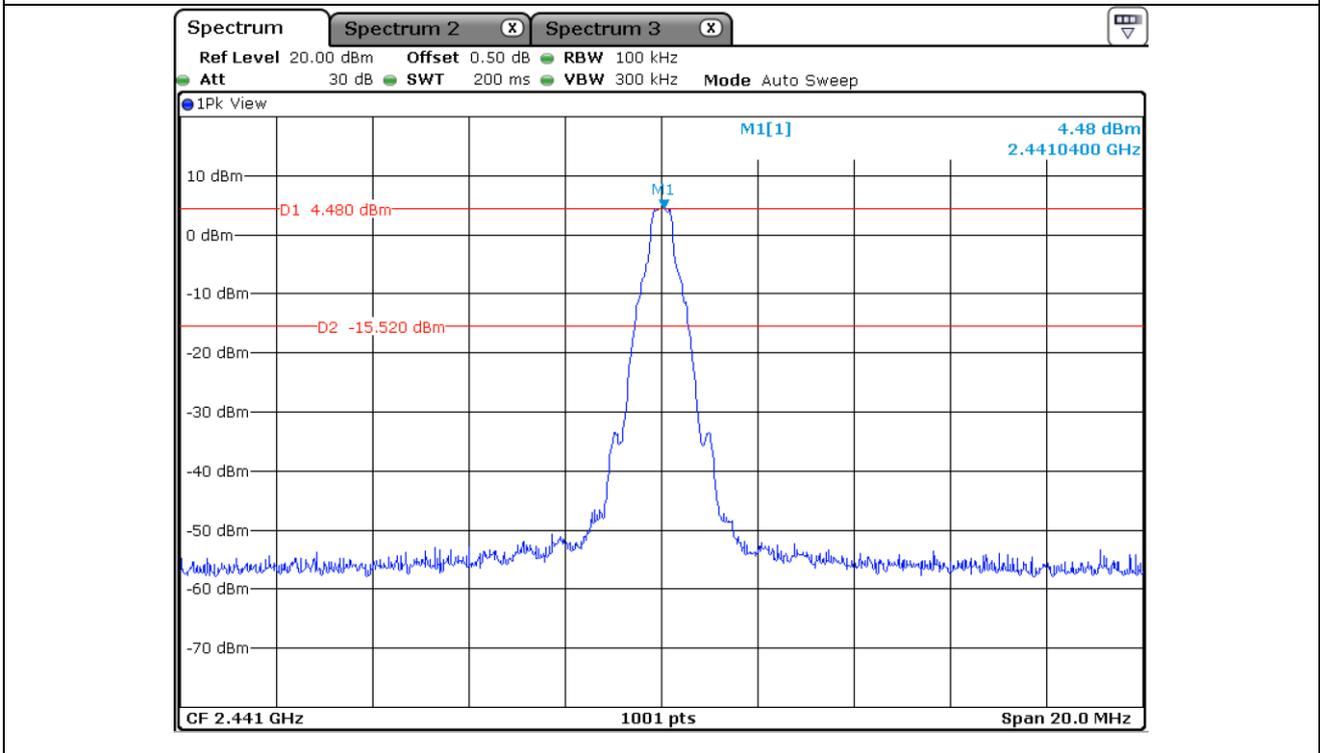
12.5 Test data for conducted emission

12.5.1 Test data for 1 Mbps

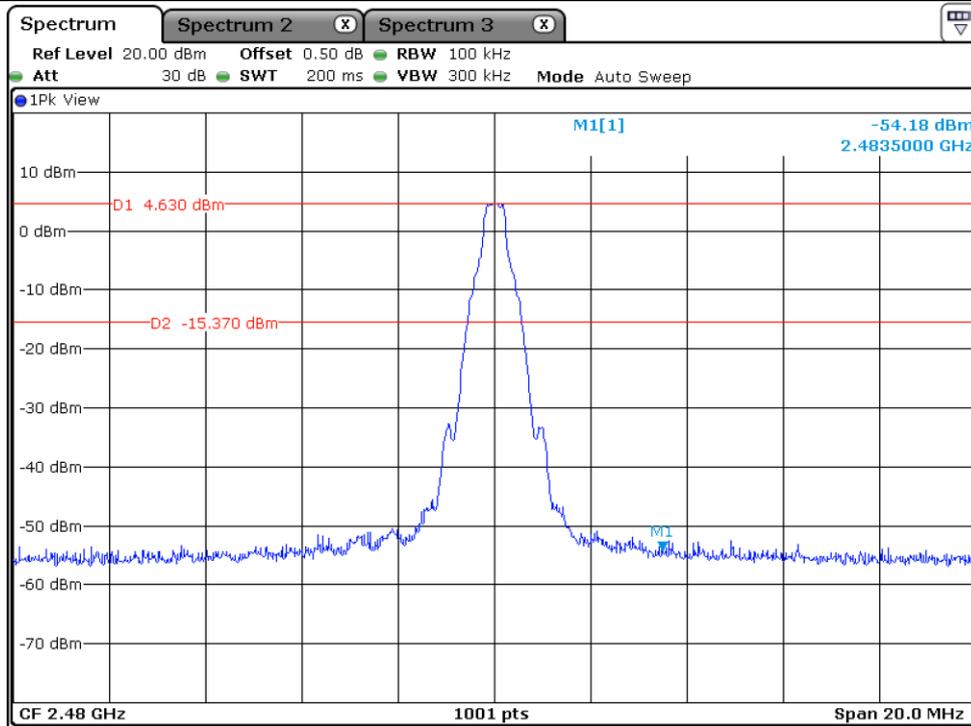
12.5.1.1 Test data for Bluetooth Earbud LEFT



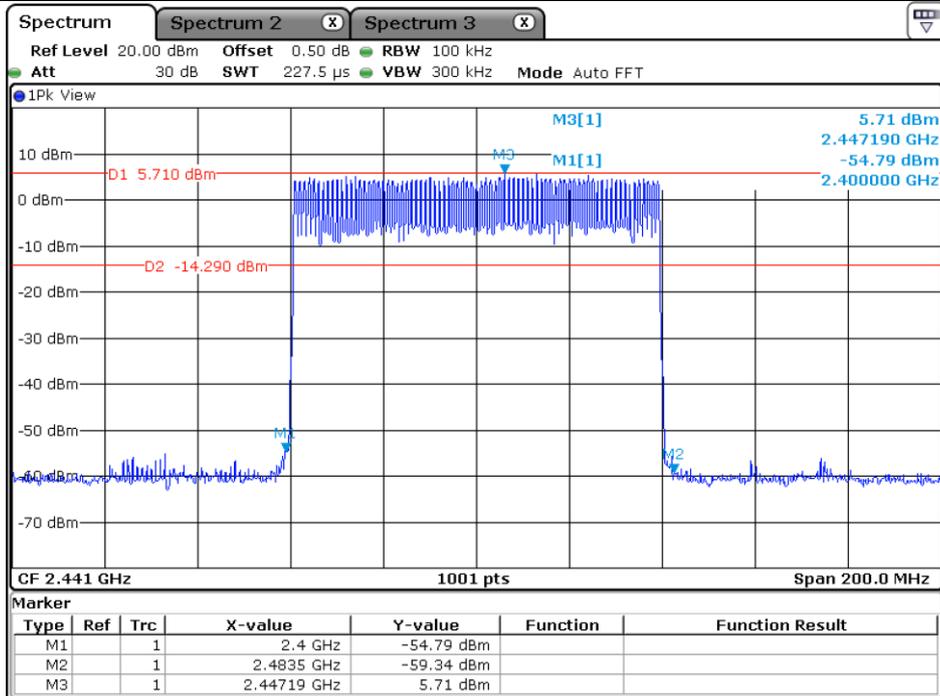
Low Channel



Middle Channel

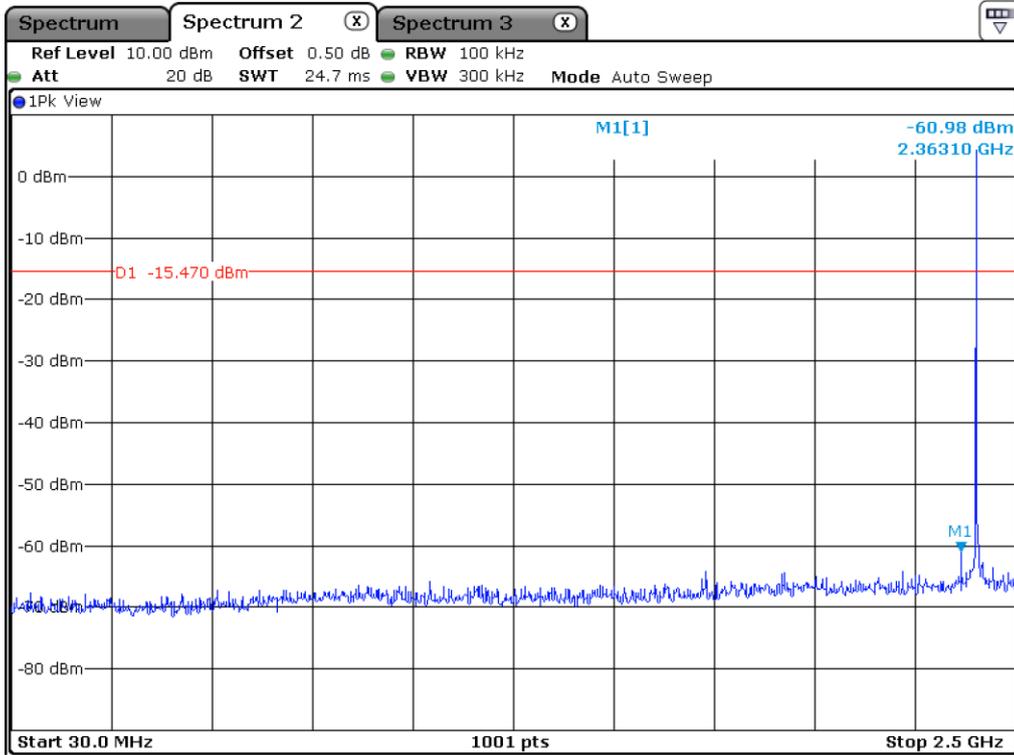


High Channel

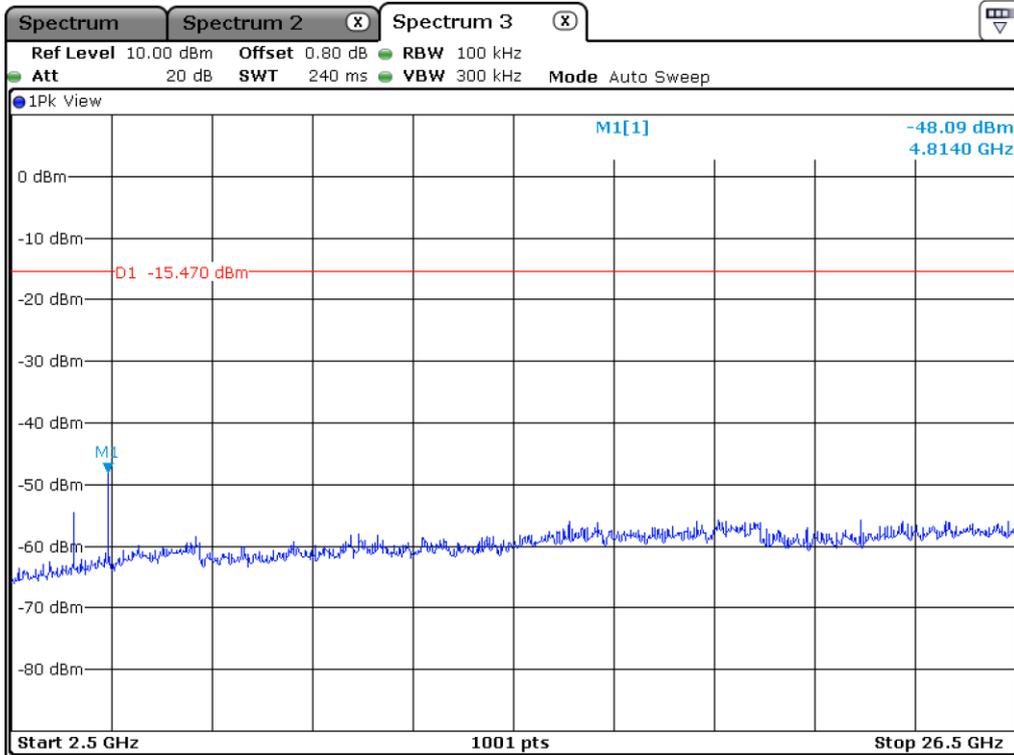


Date: 12.MAY.2020 14:46:59

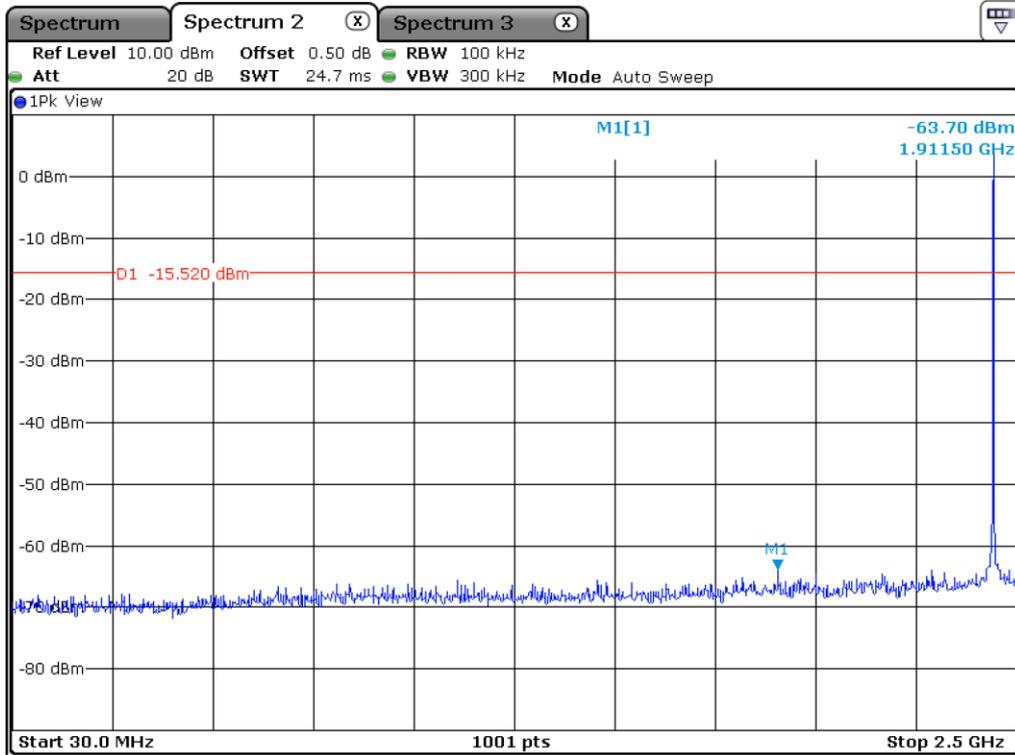
Hopping Mode



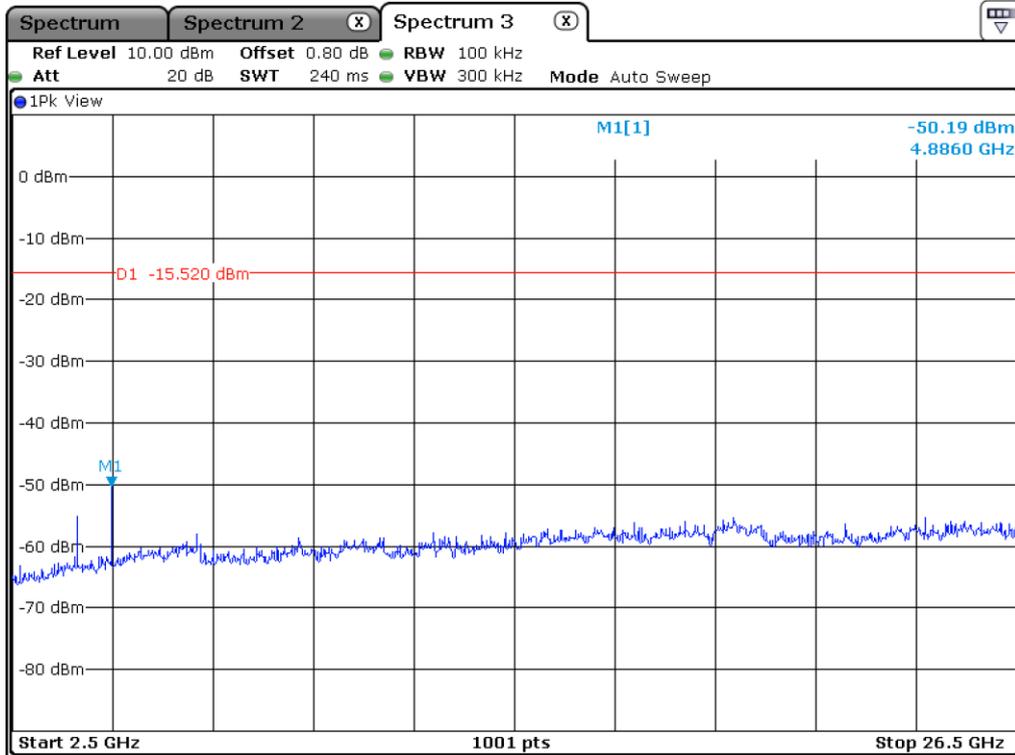
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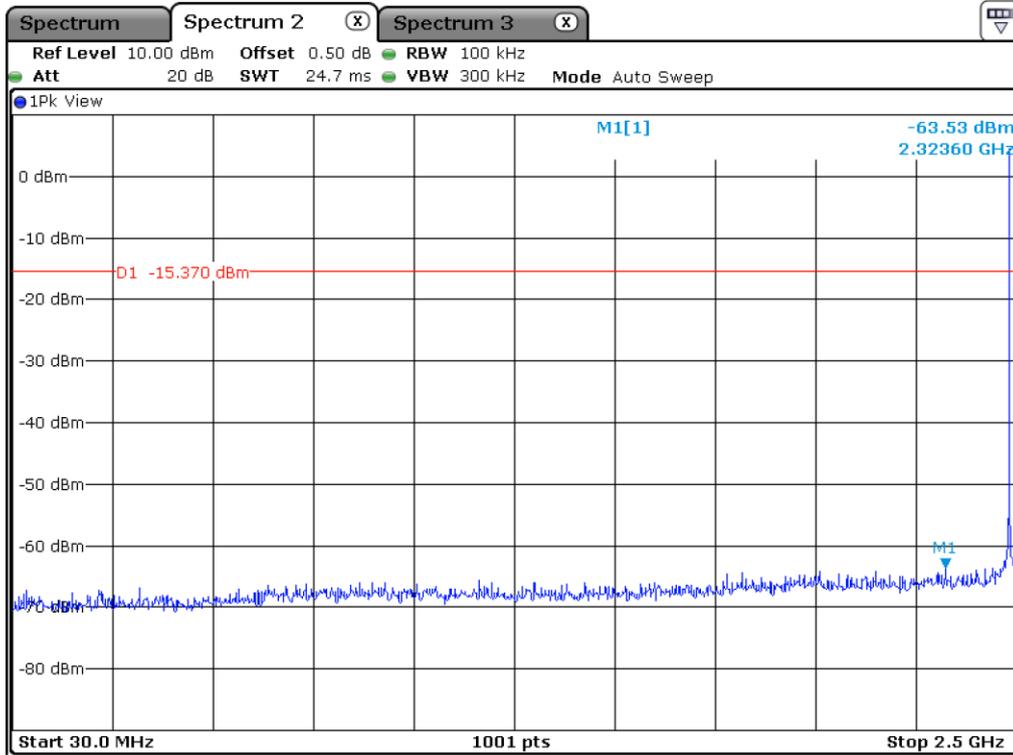
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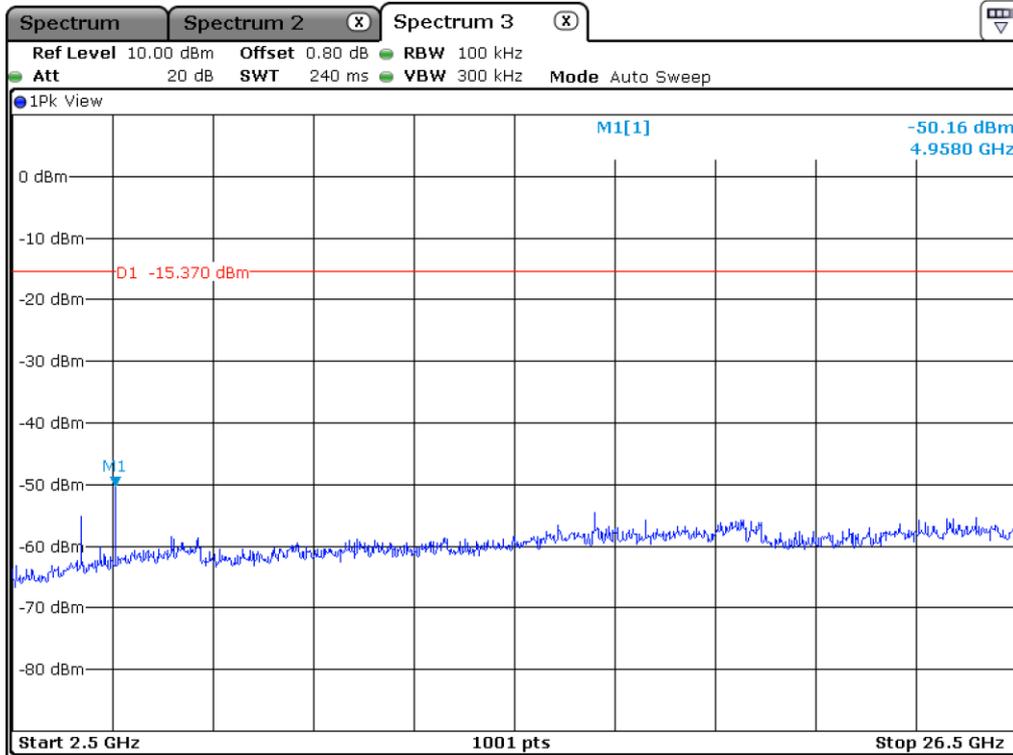
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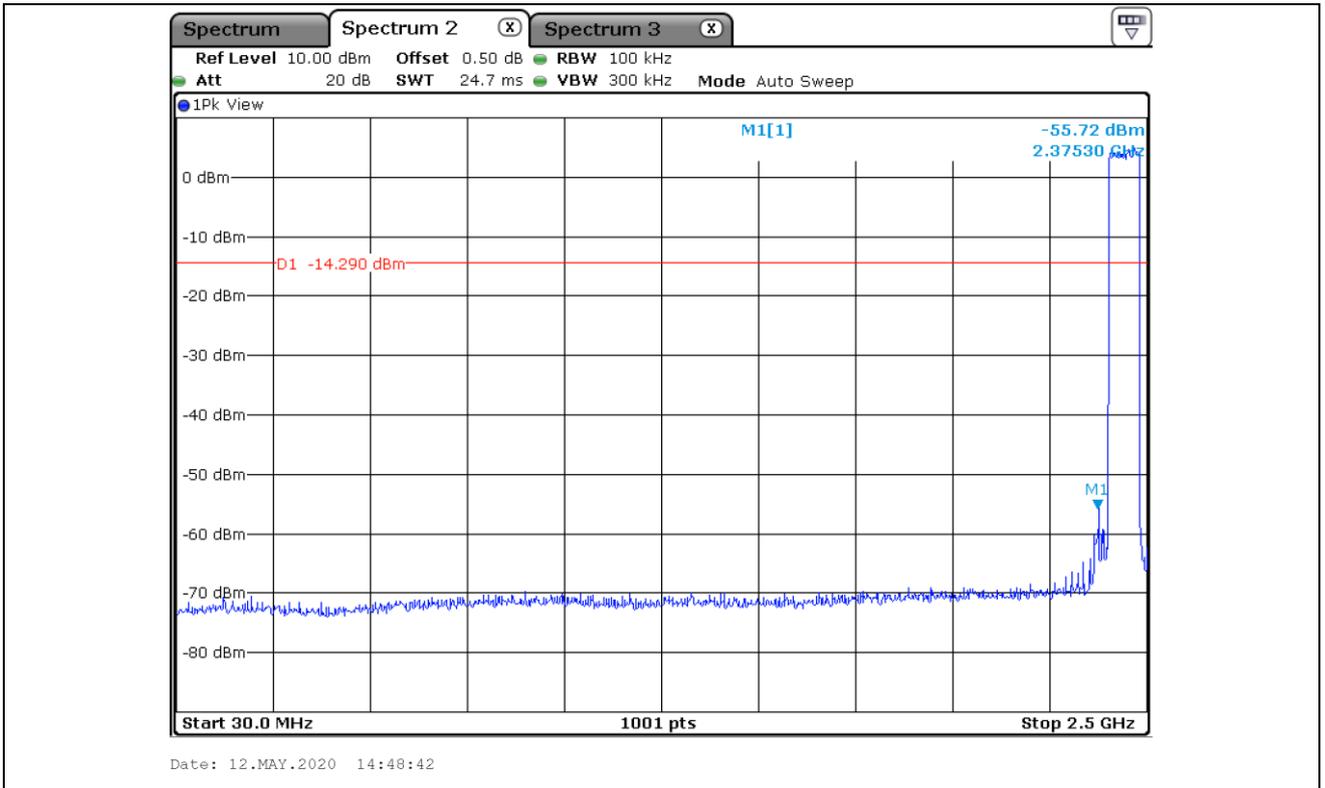
Middle Channel



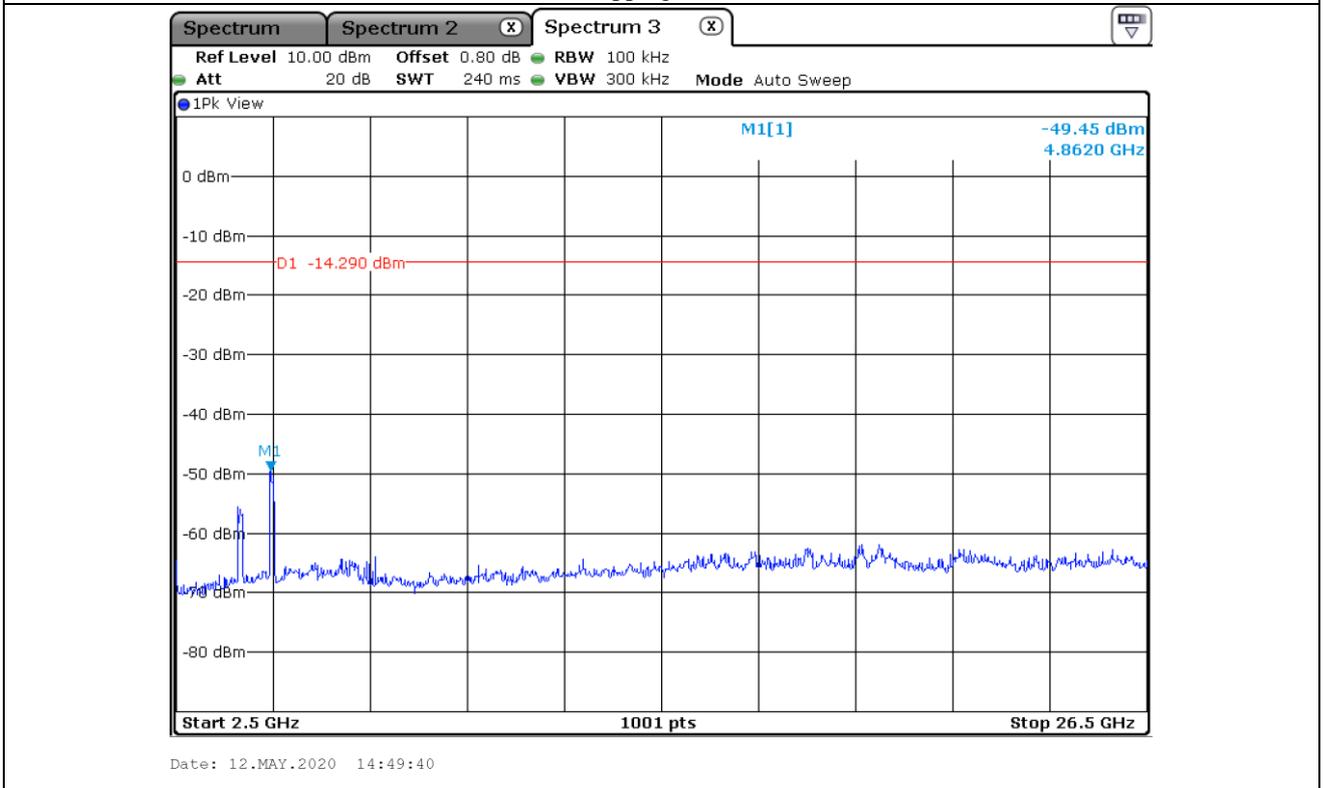
High Channel



High Channel

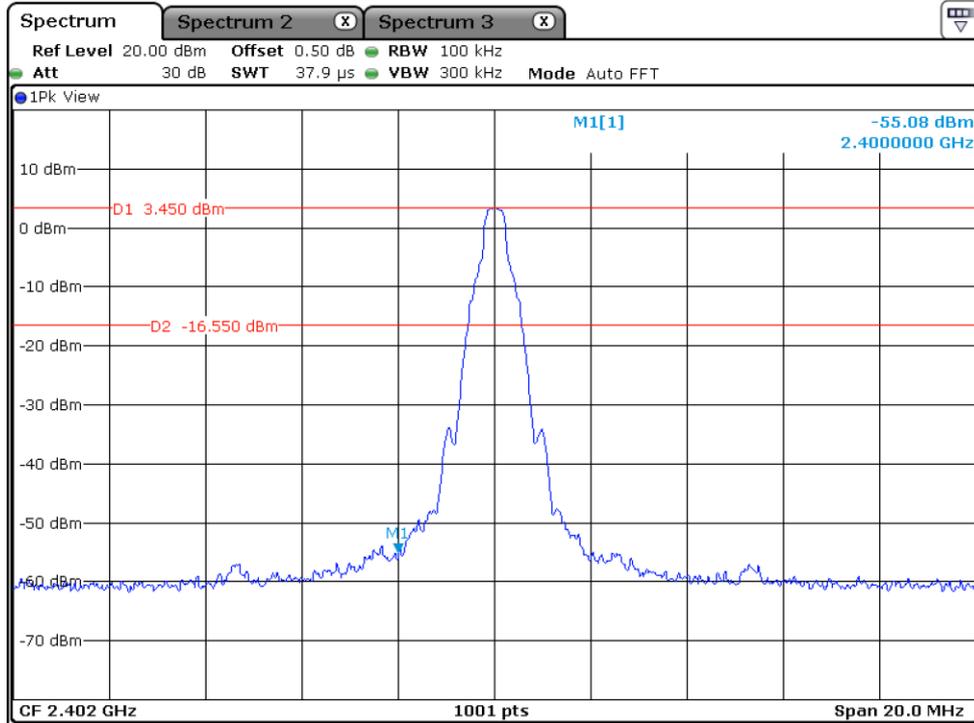


Hopping Mode

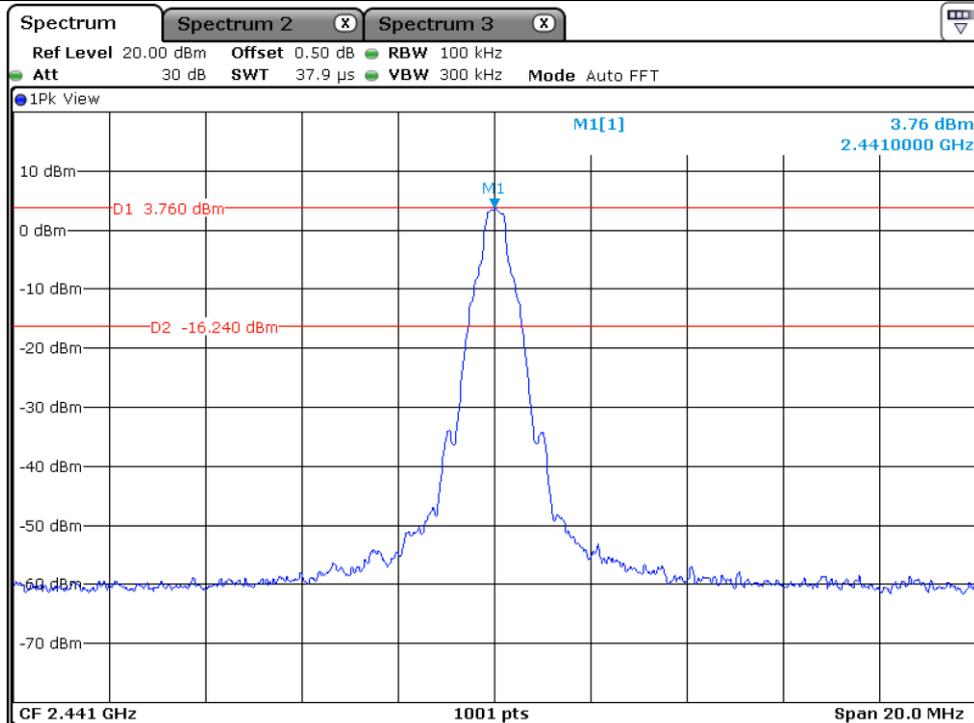


Hopping Mode

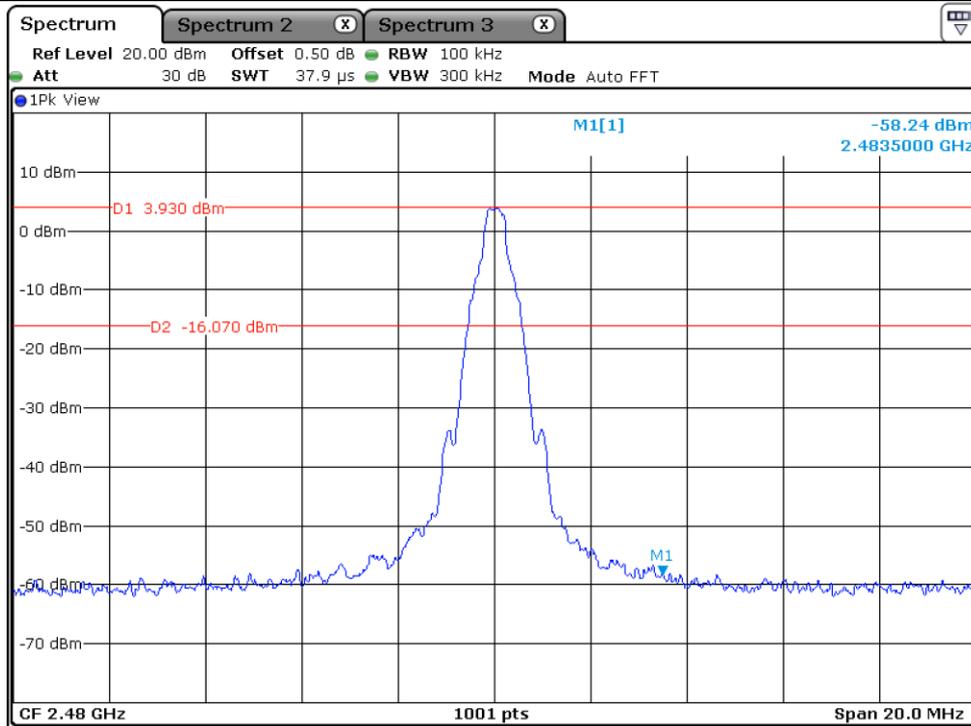
12.5.1.2 Test data for Bluetooth Earbud RIGHT



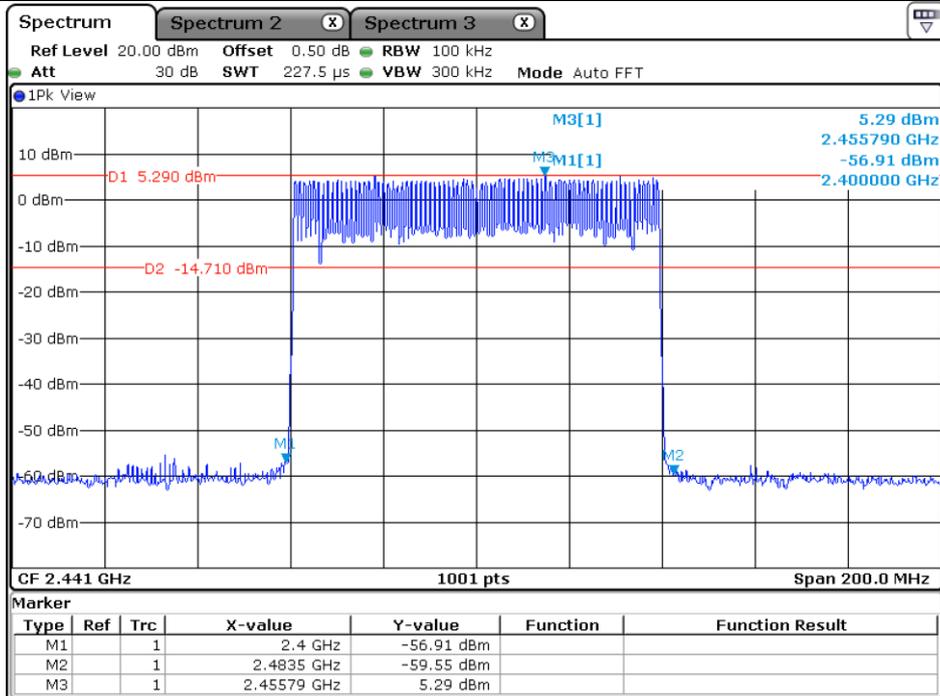
Low Channel



Middle Channel

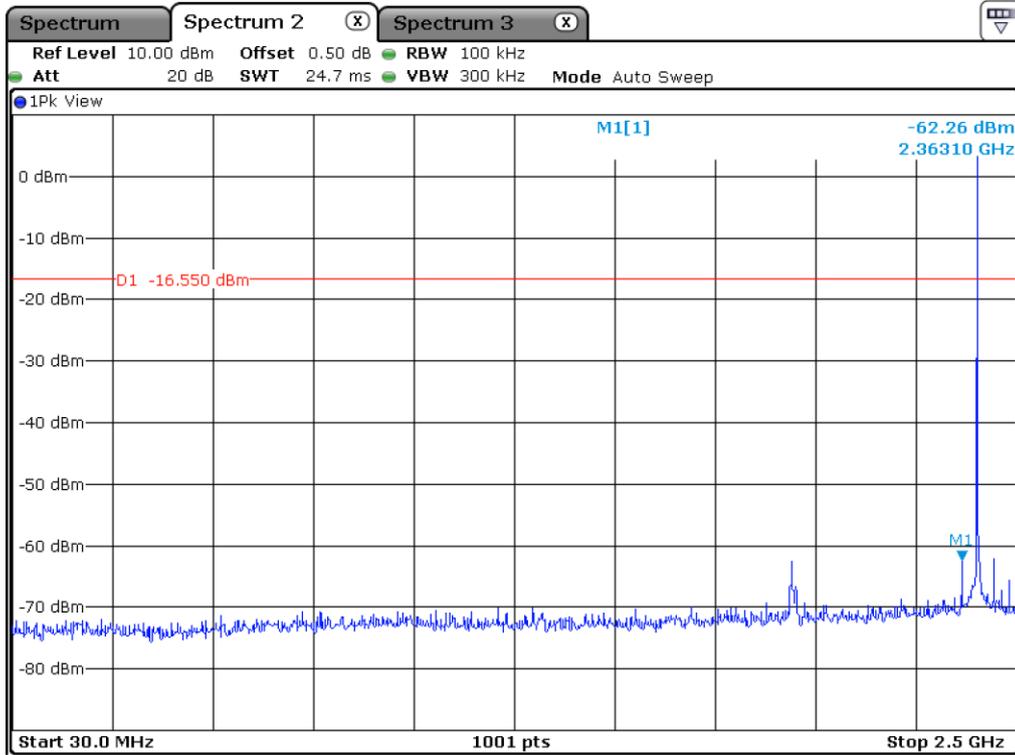


High Channel

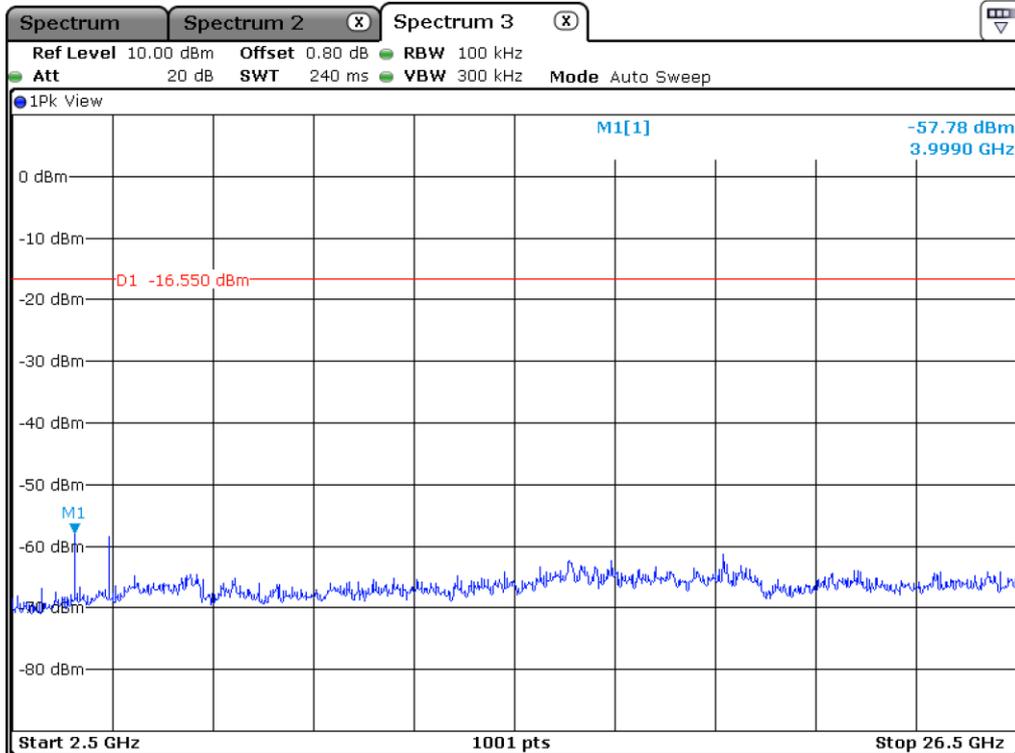


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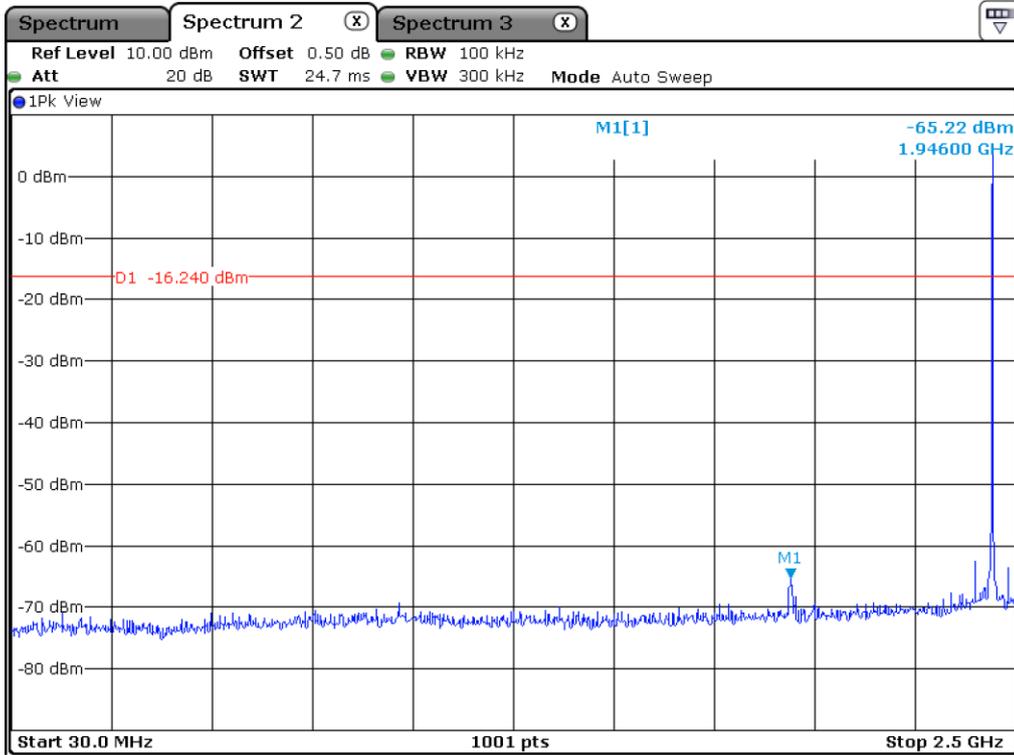
Hopping Mode



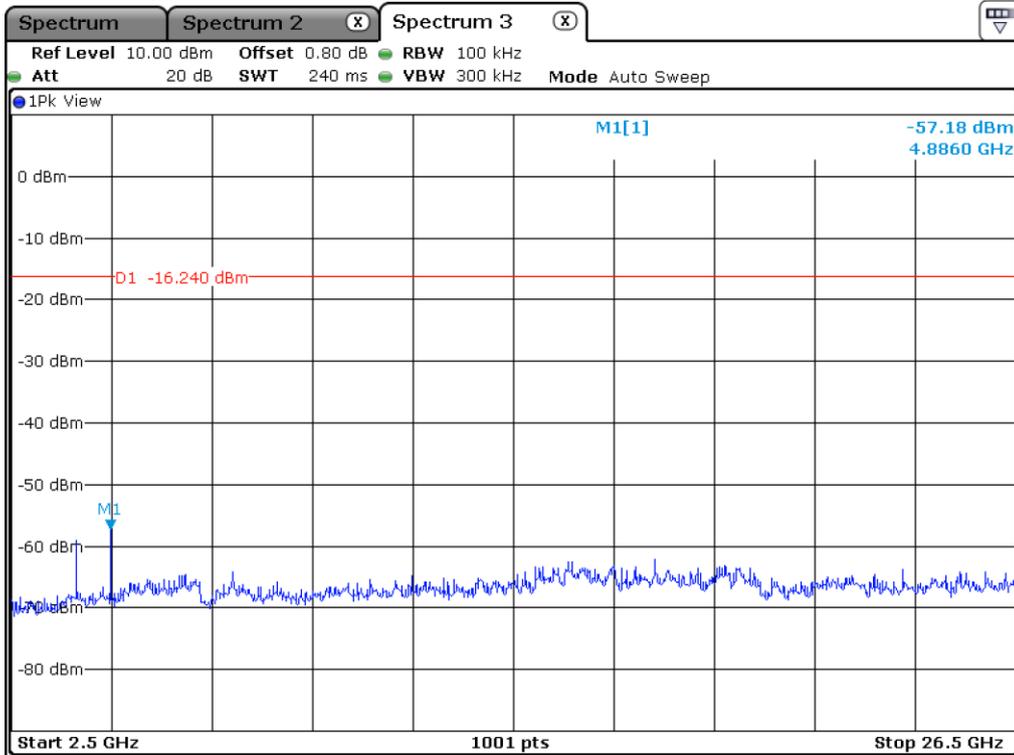
Low Channel



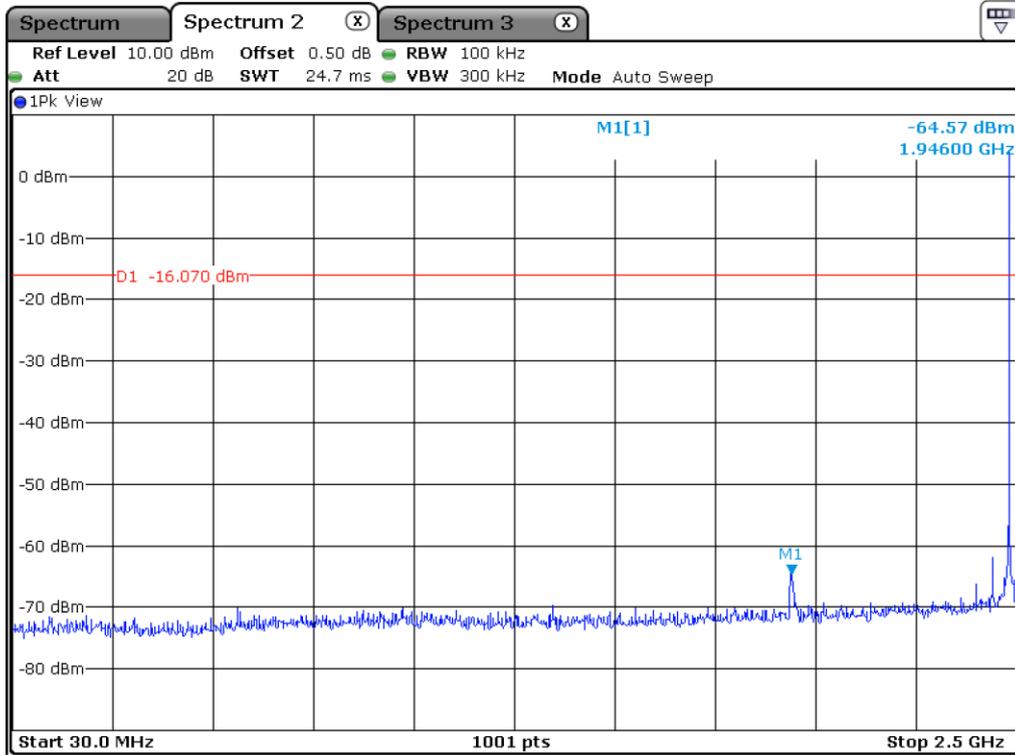
Low Channel



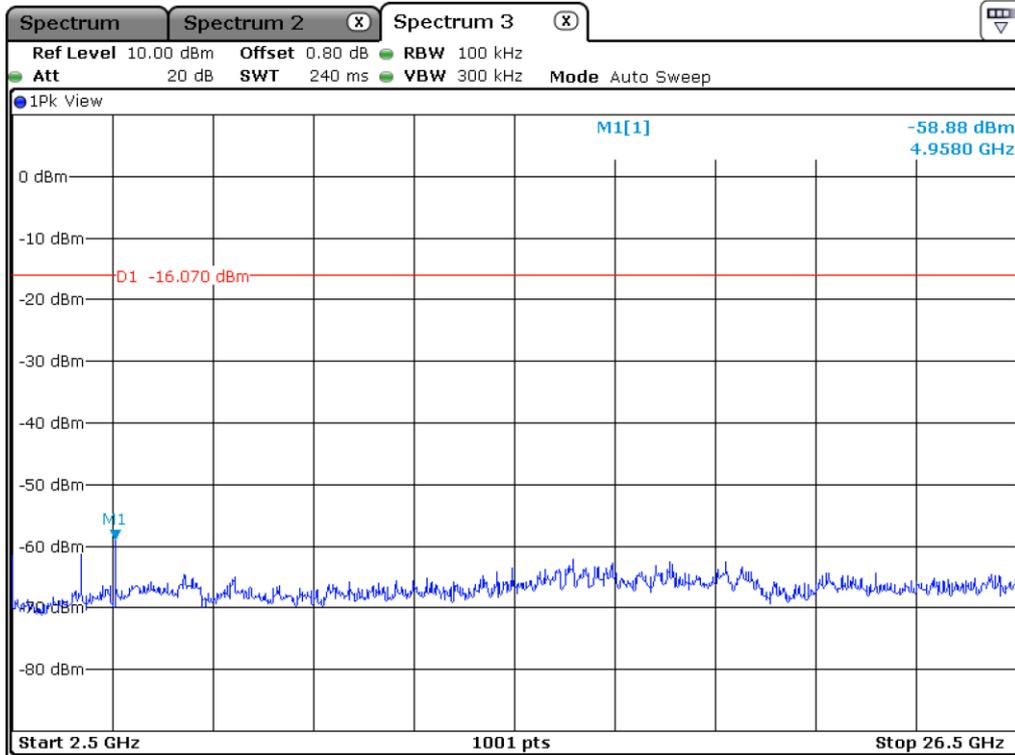
Middle Channel



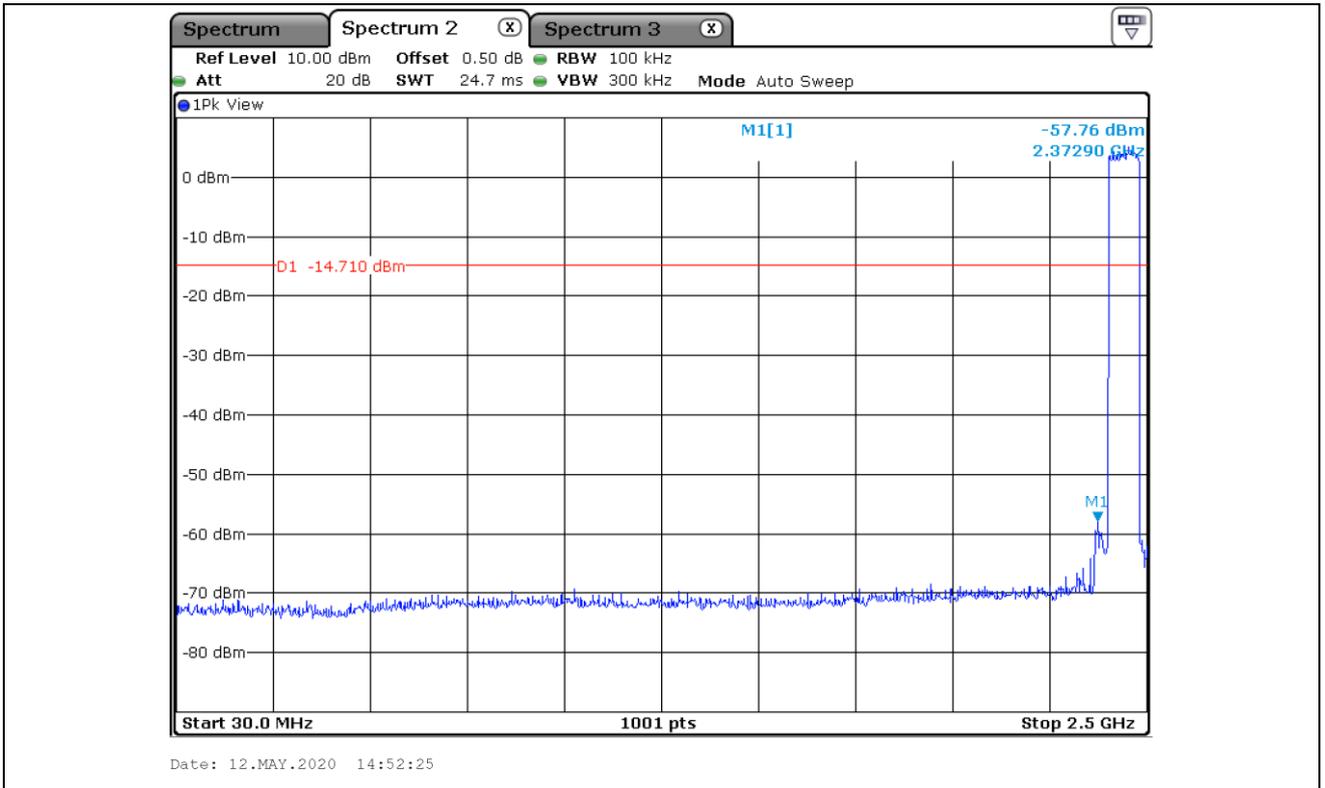
Middle Channel



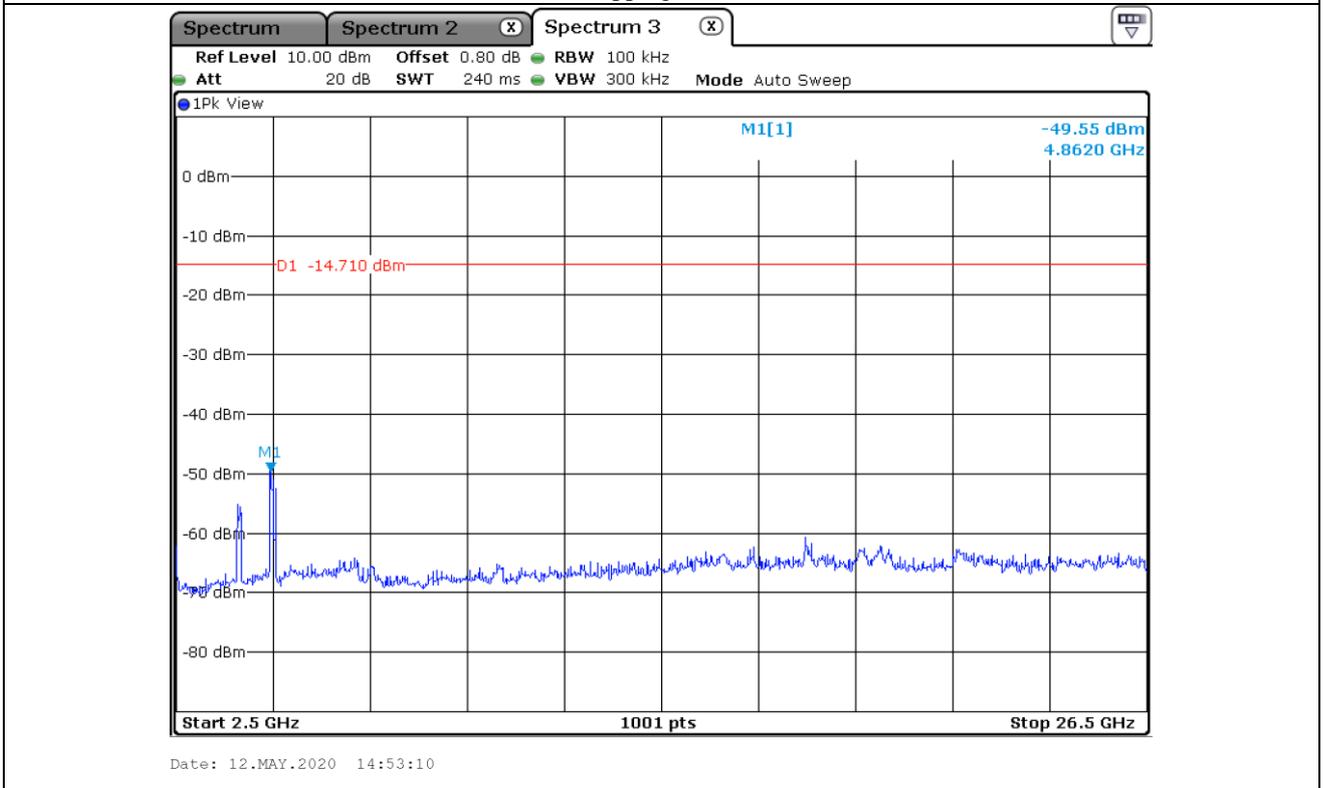
High Channel



High Channel



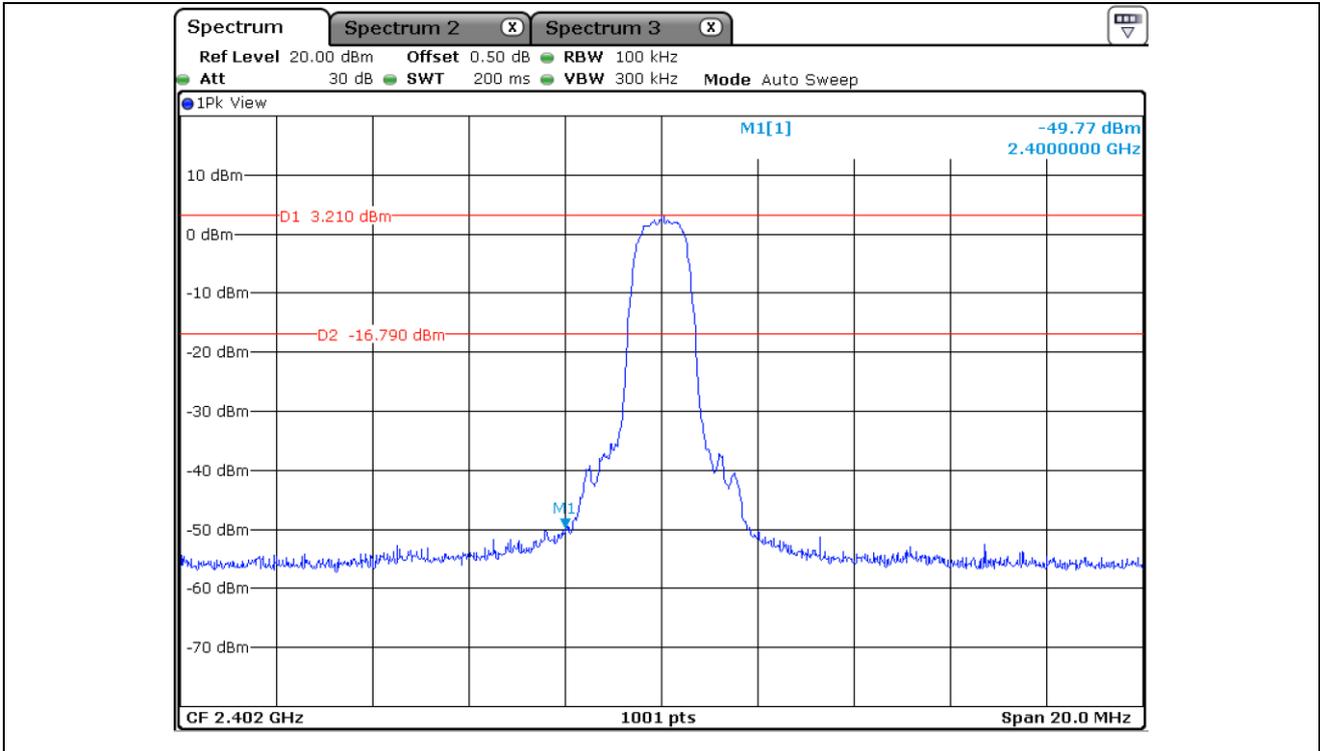
Hopping Mode



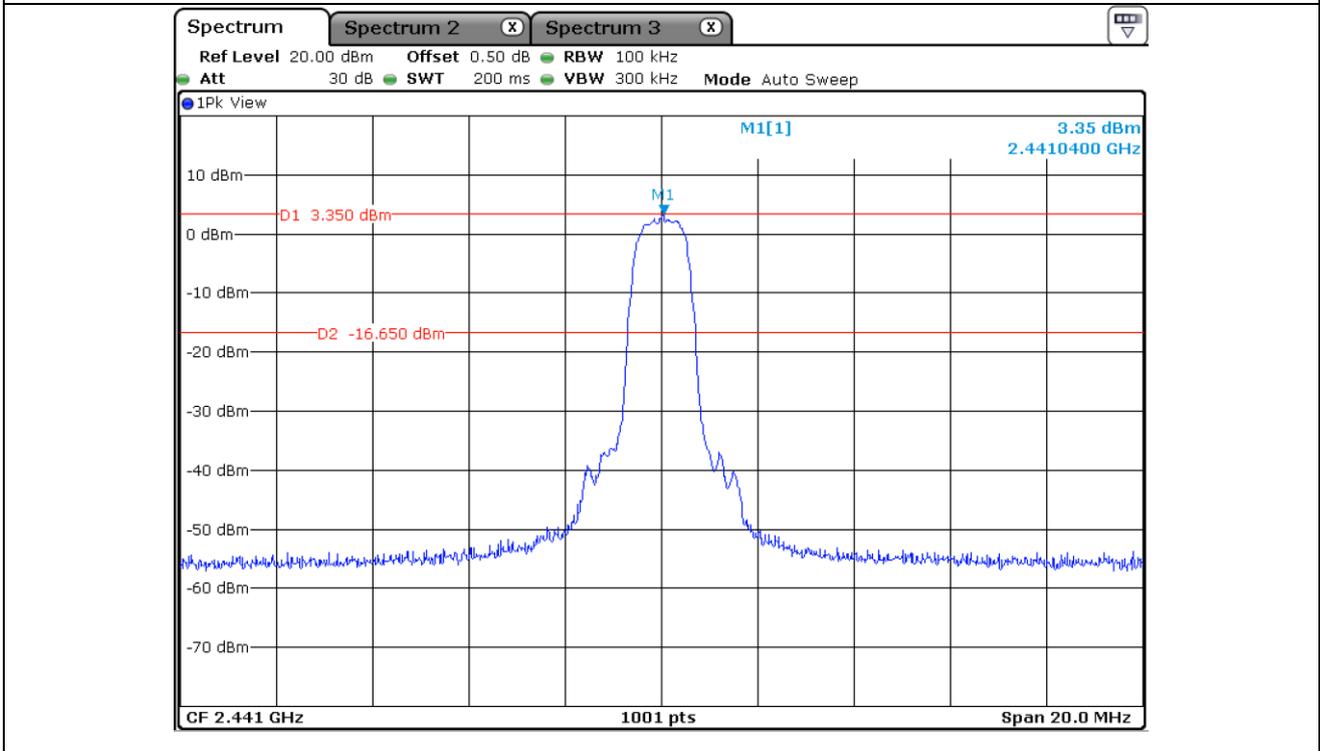
Hopping Mode

12.5.2 Test data for 2 Mbps

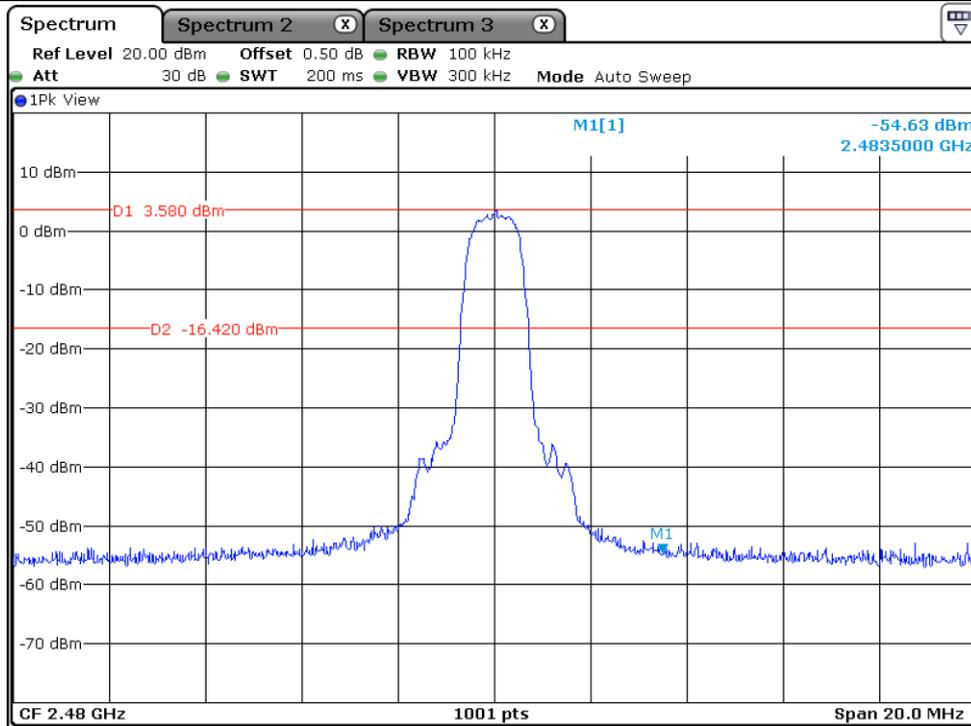
12.5.2.1 Test data for Bluetooth Earbud LEFT



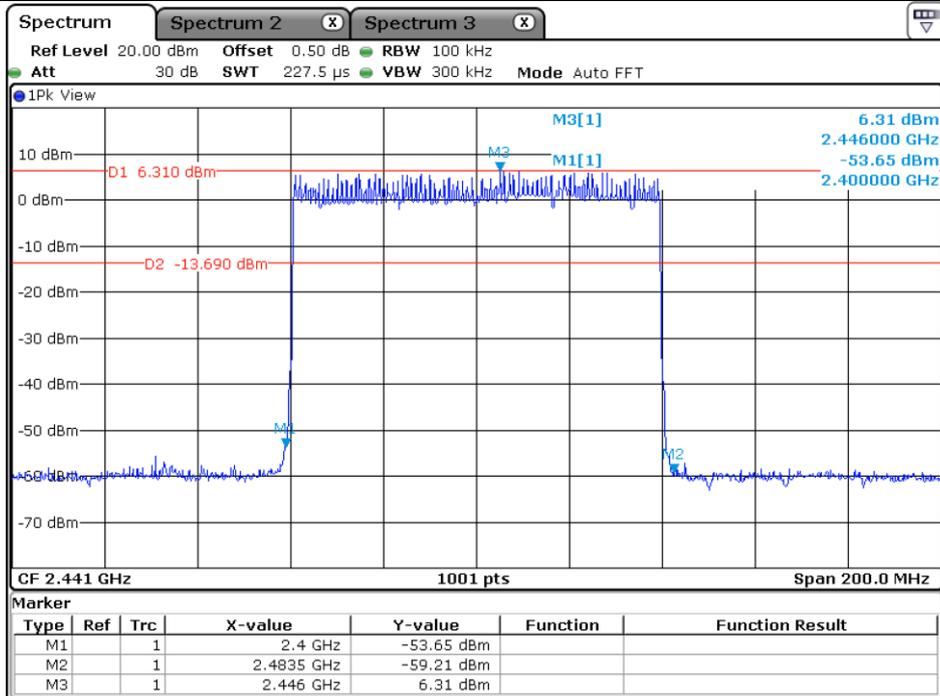
Low Channel



Middle Channel

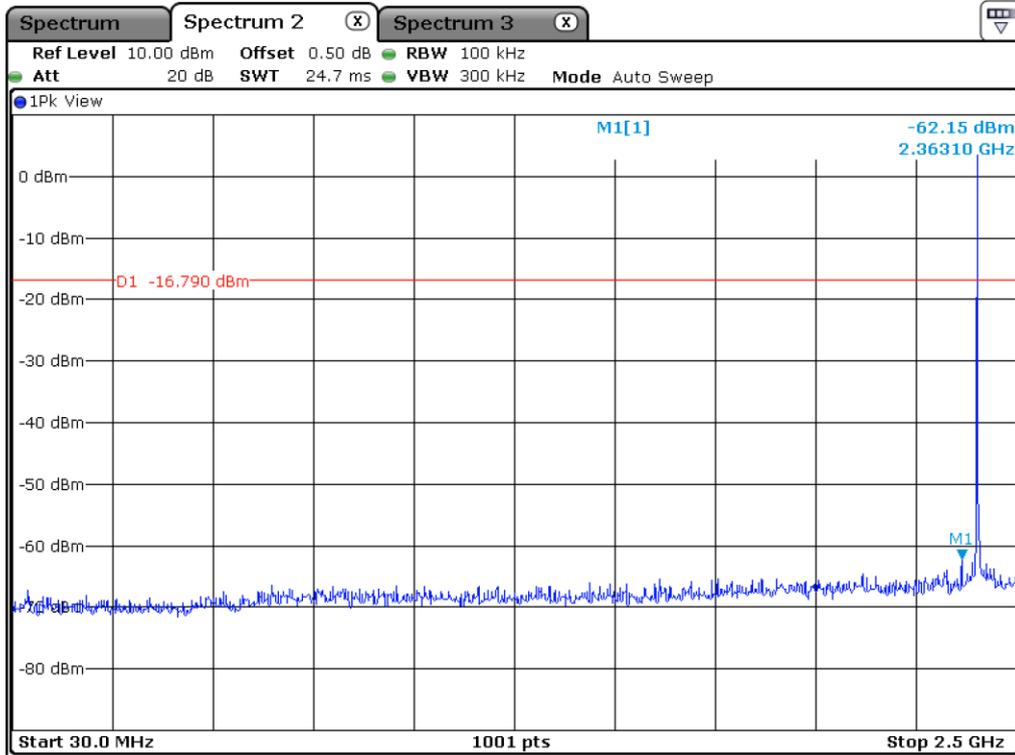


High Channel

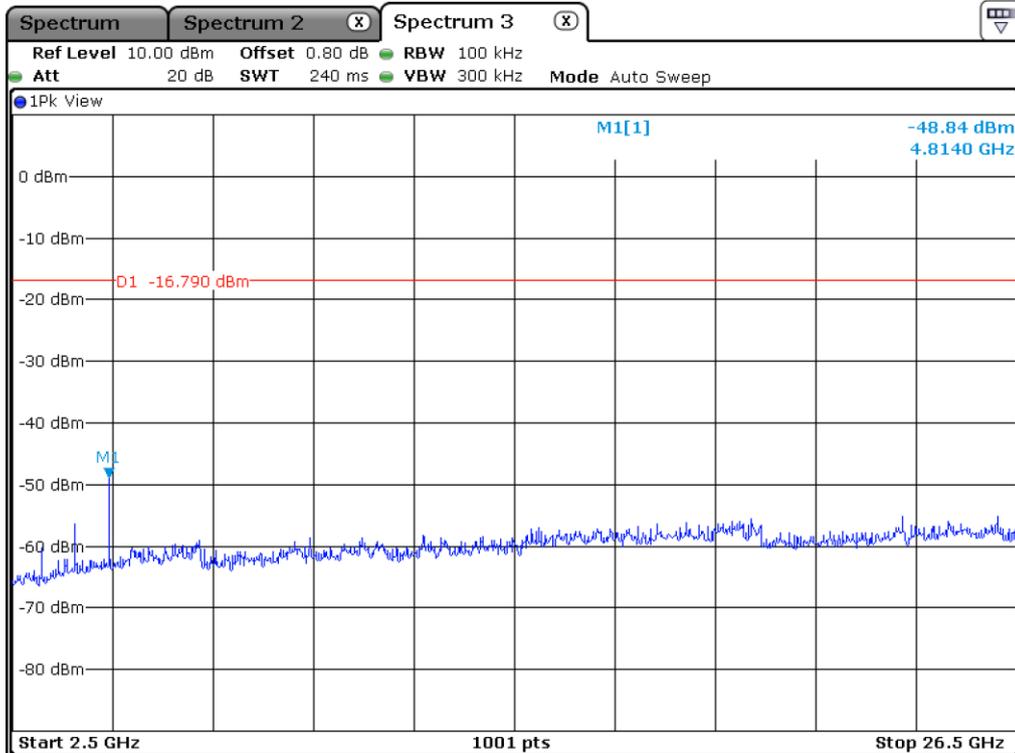


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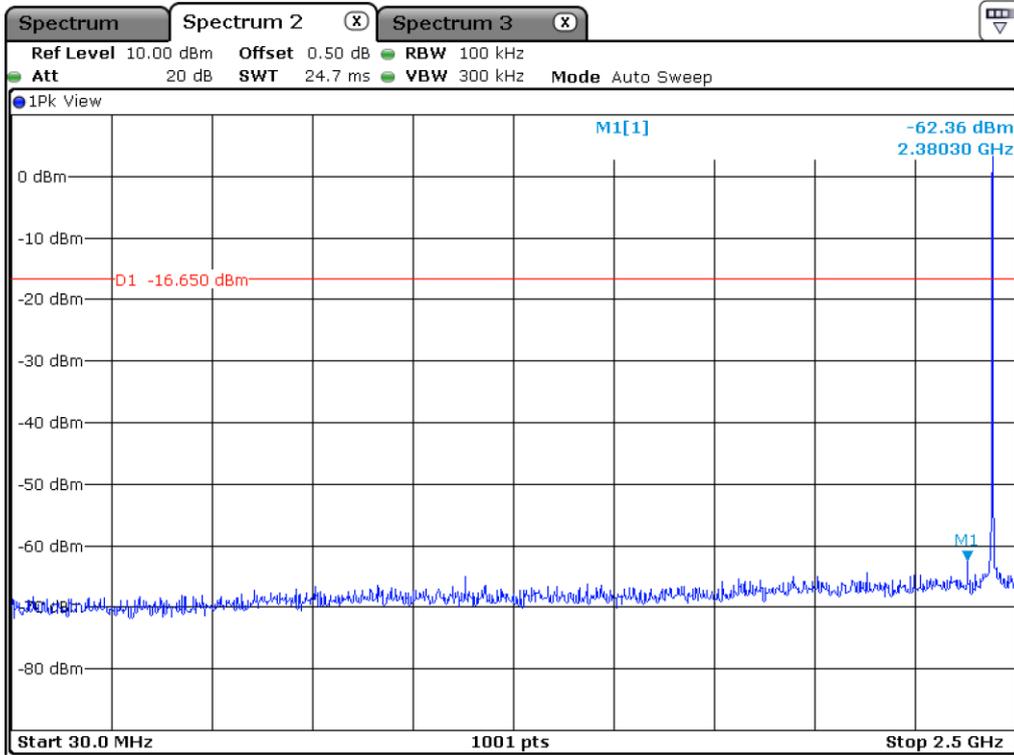
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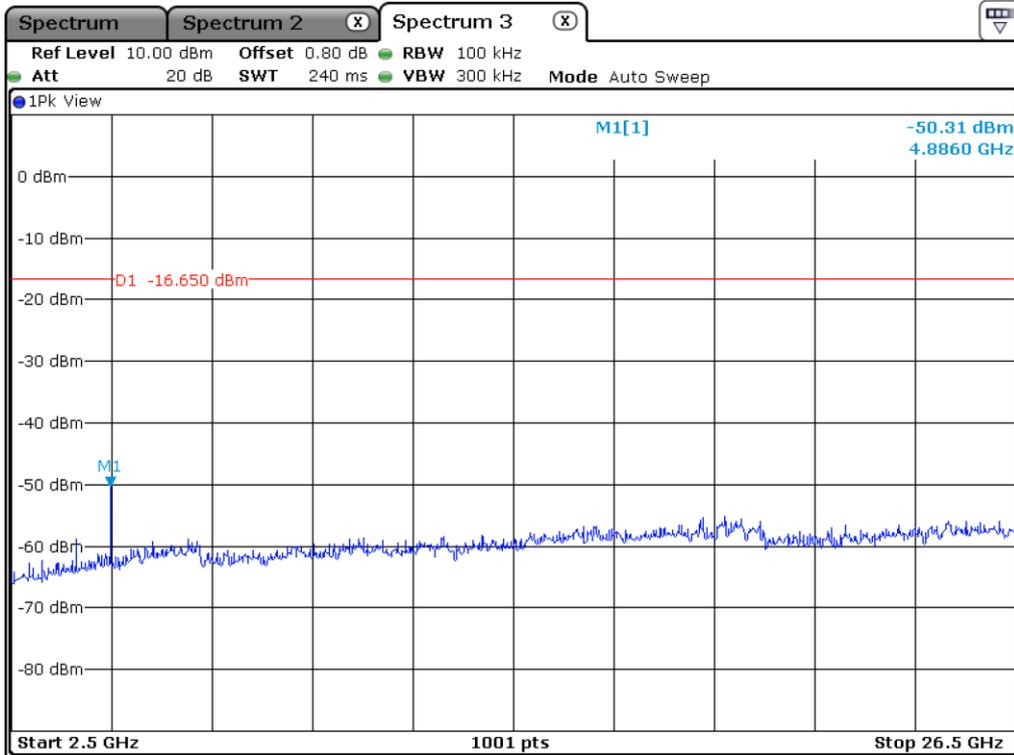
Low Channel



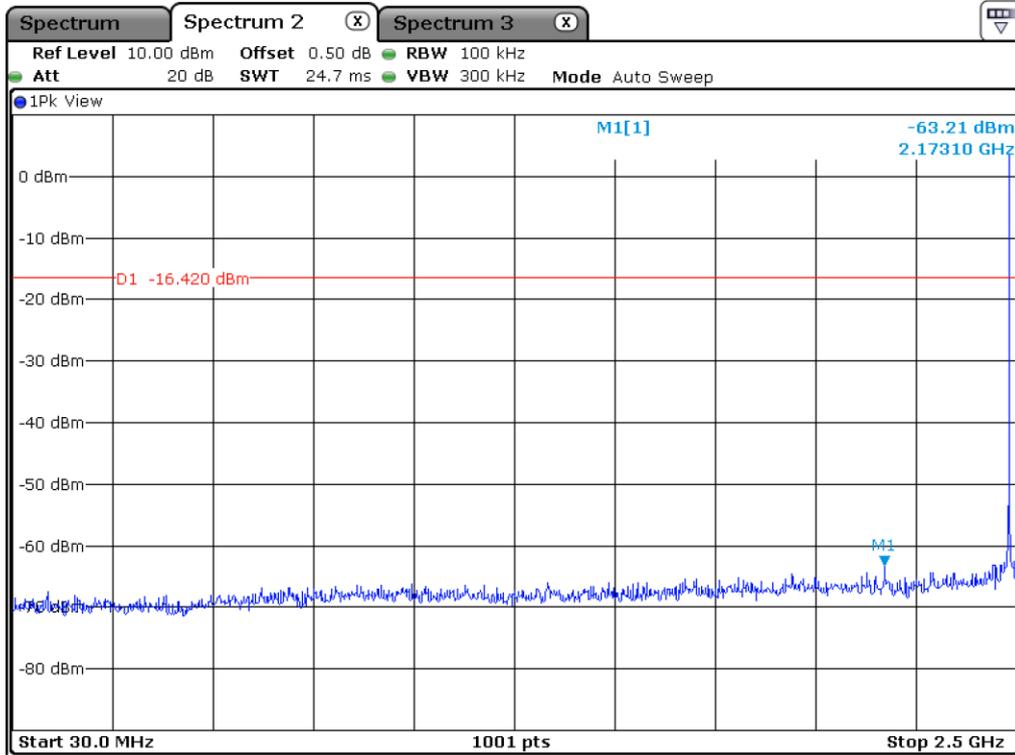
Low Channel



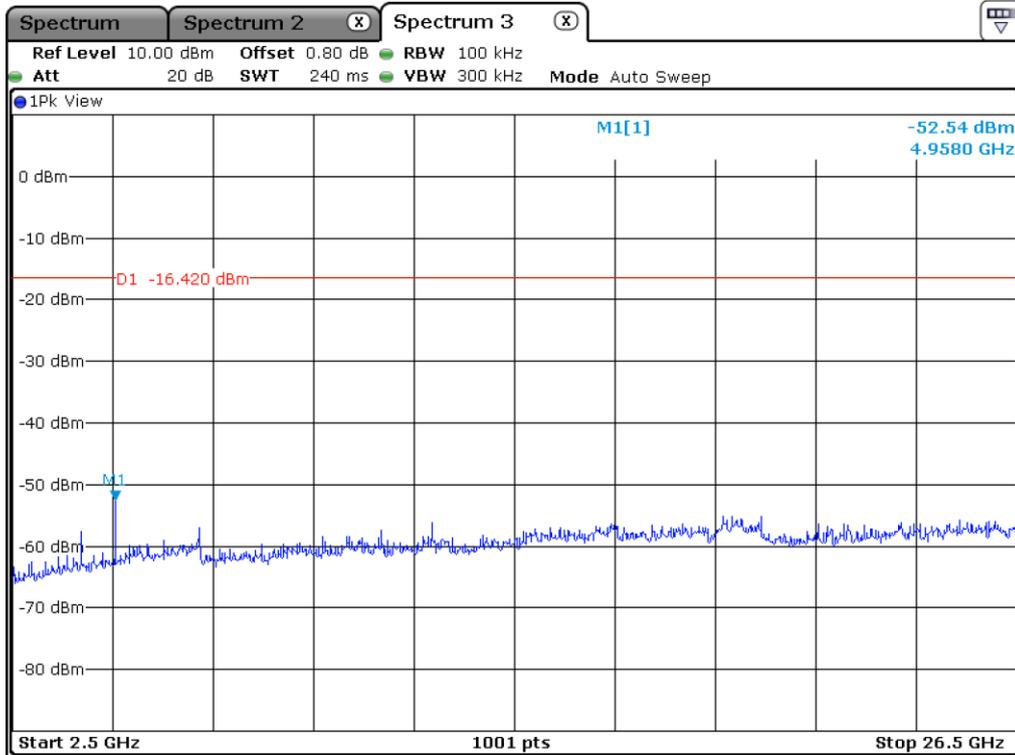
Middle Channel



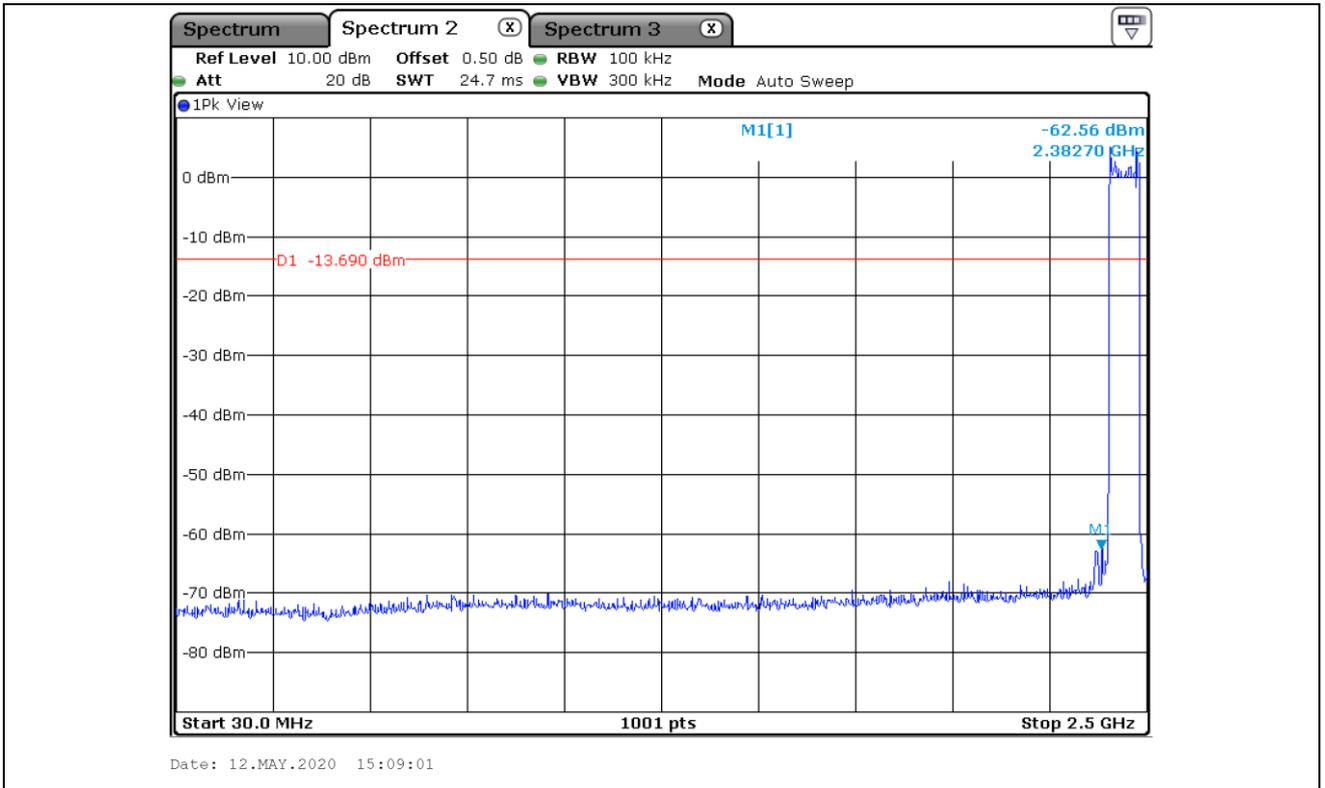
Middle Channel



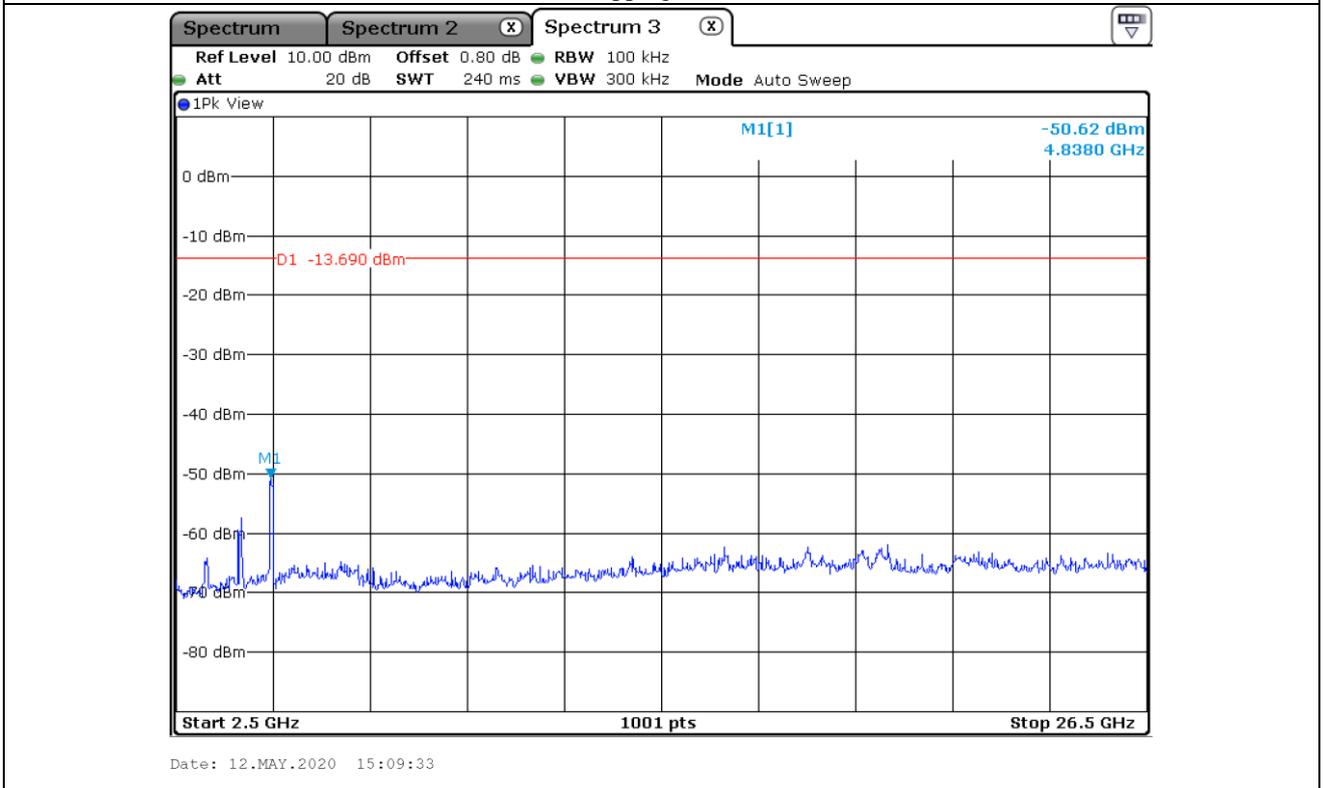
High Channel



High Channel

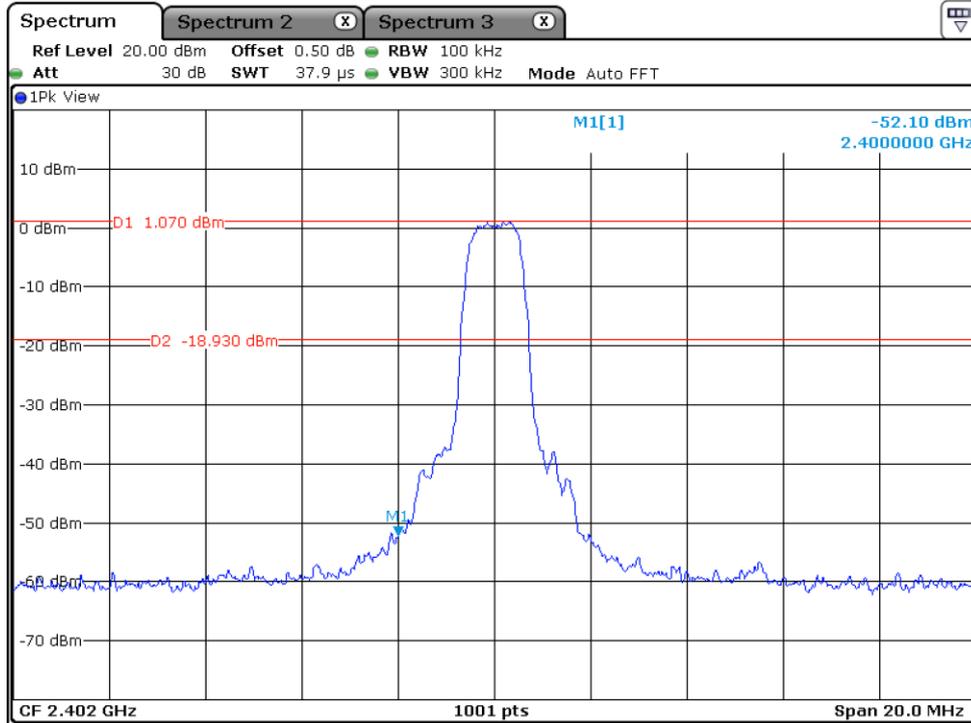


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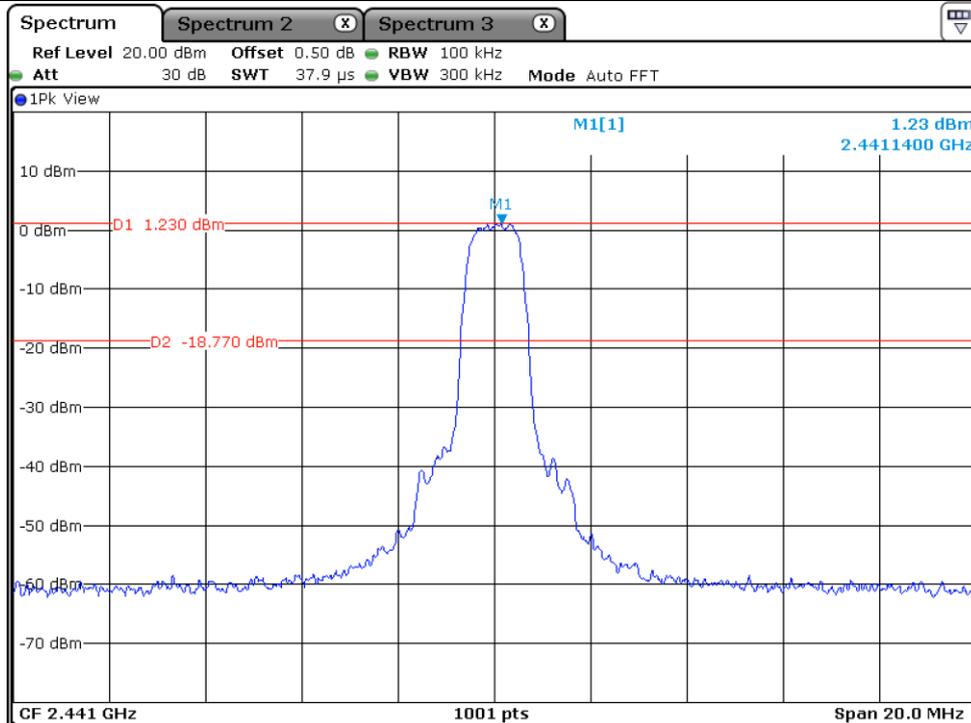


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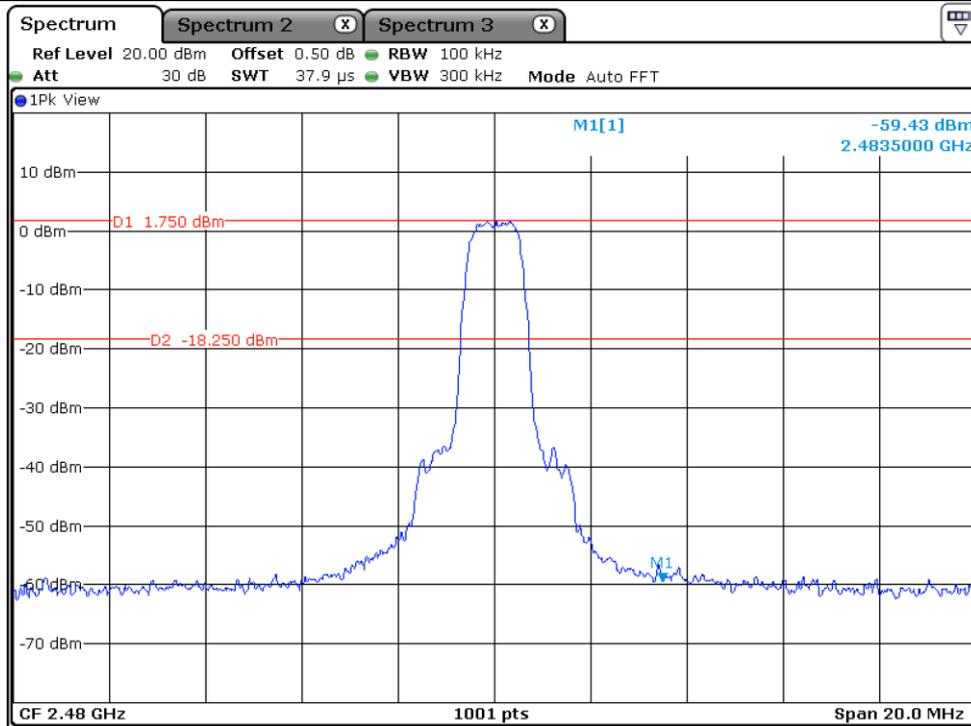
12.5.2.2 Test data for Bluetooth Earbud RIGHT



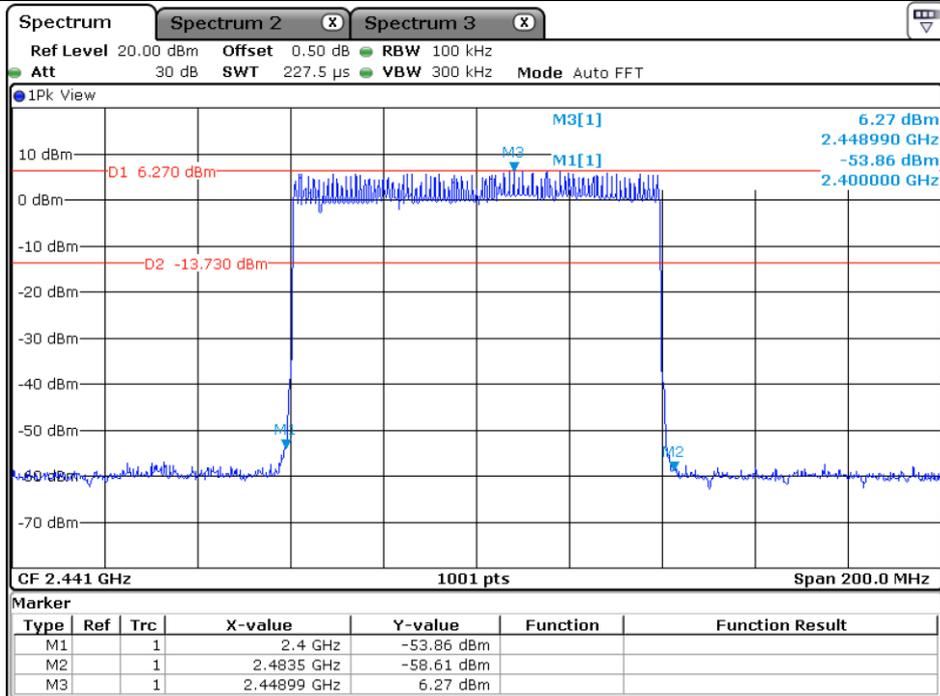
Low Channel



Middle Channel

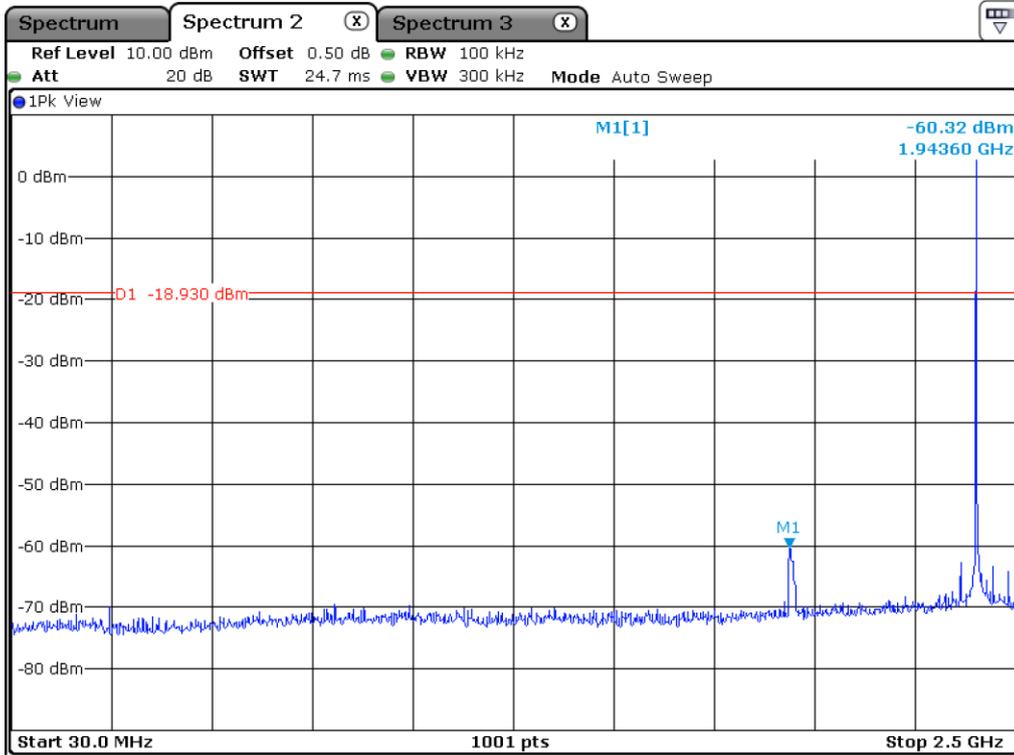


High Channel

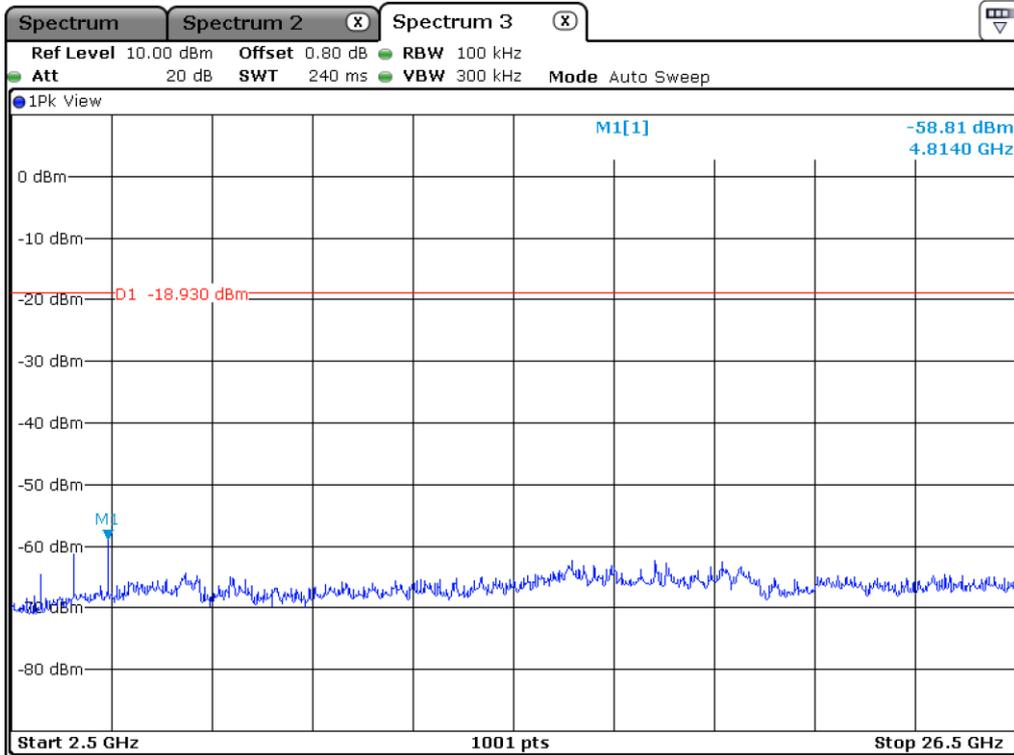


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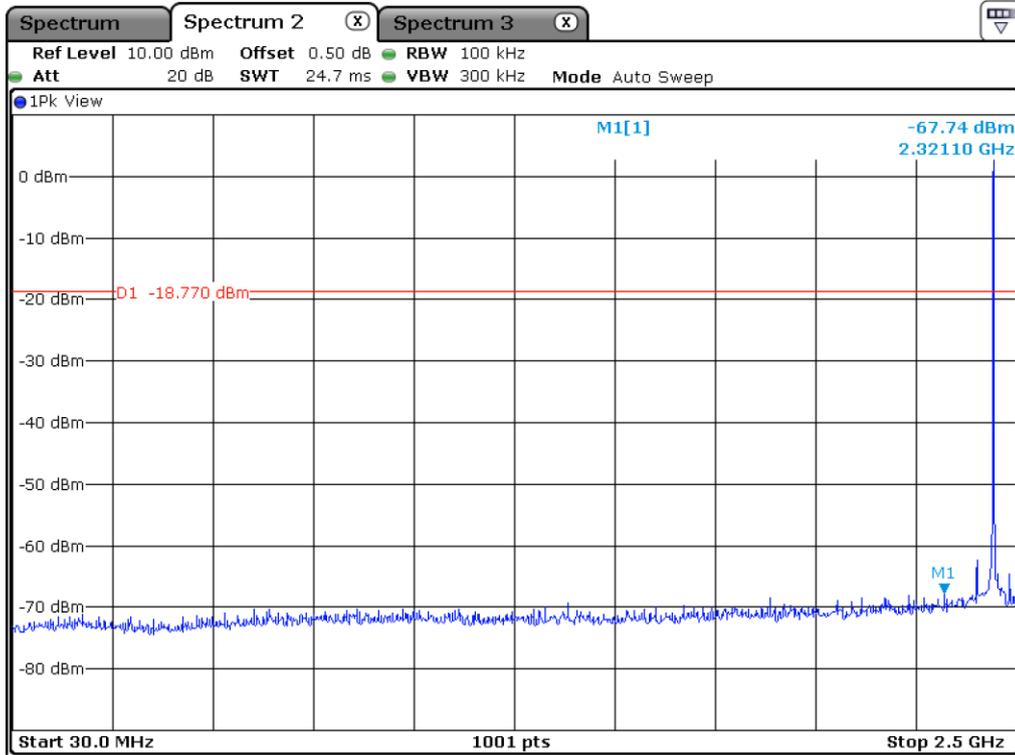
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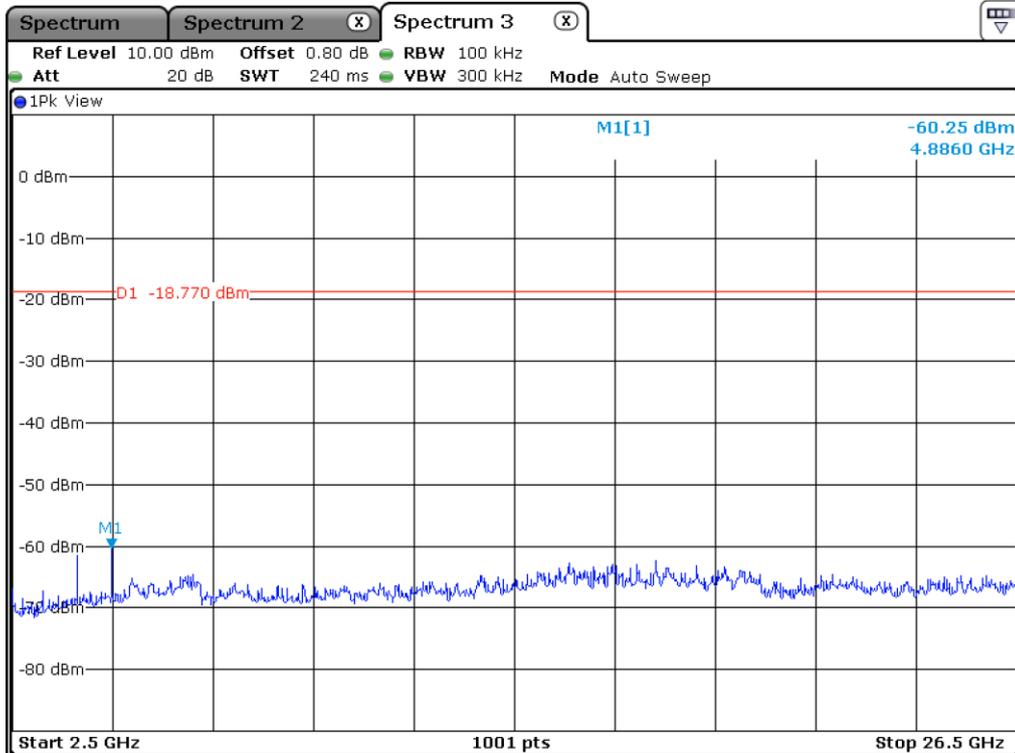
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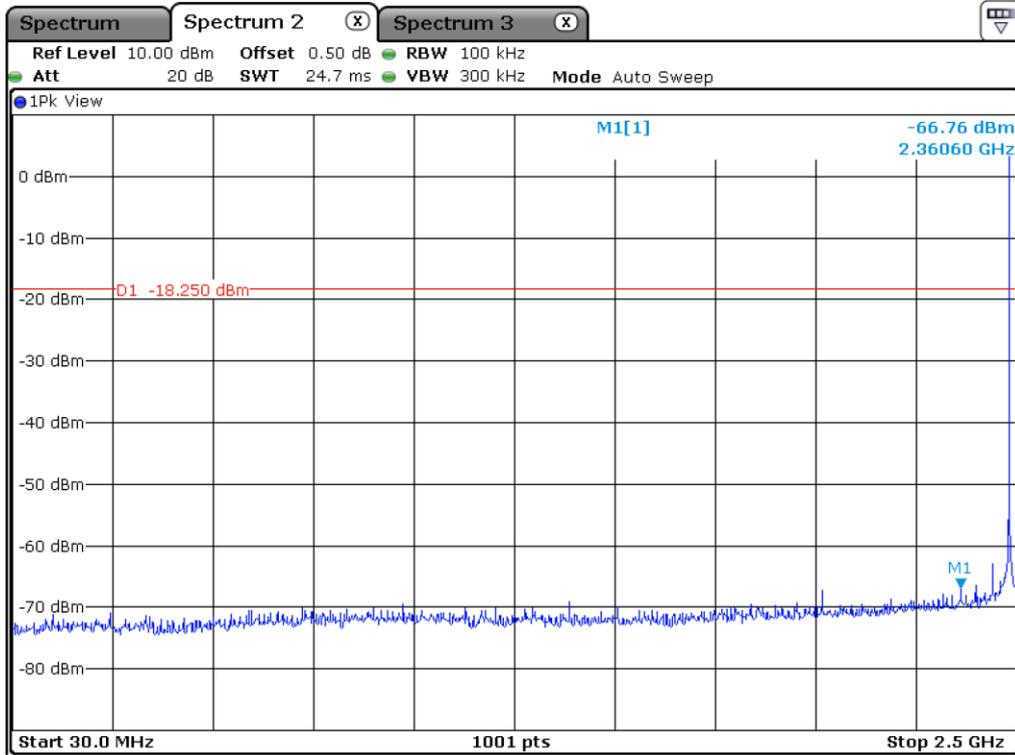
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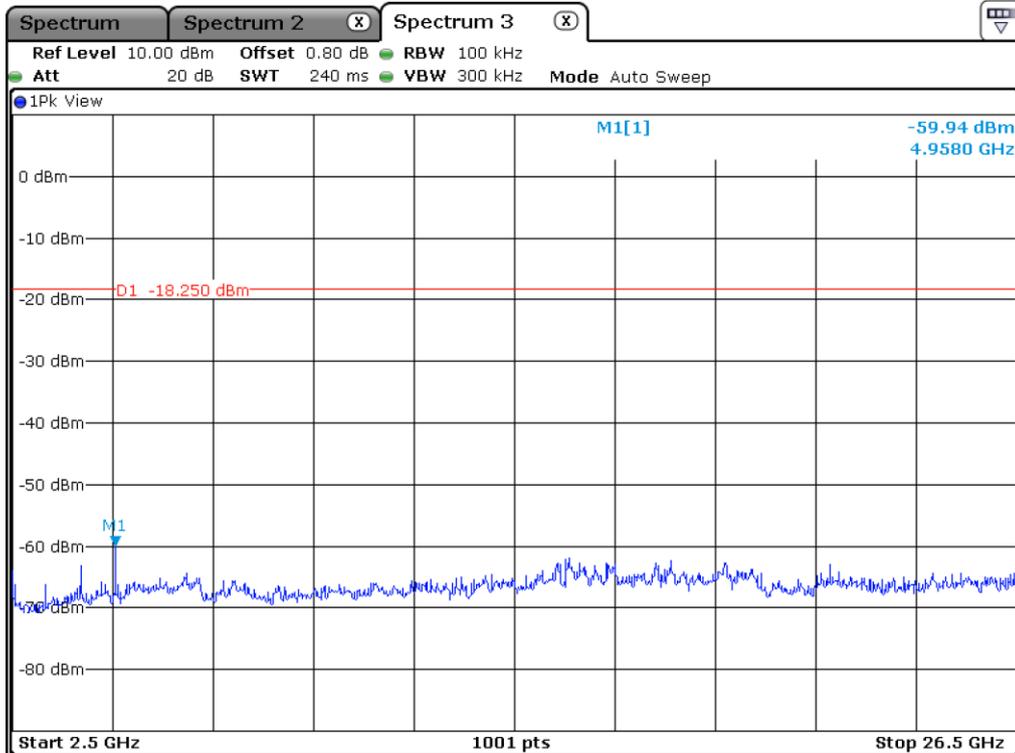
Middle Channel



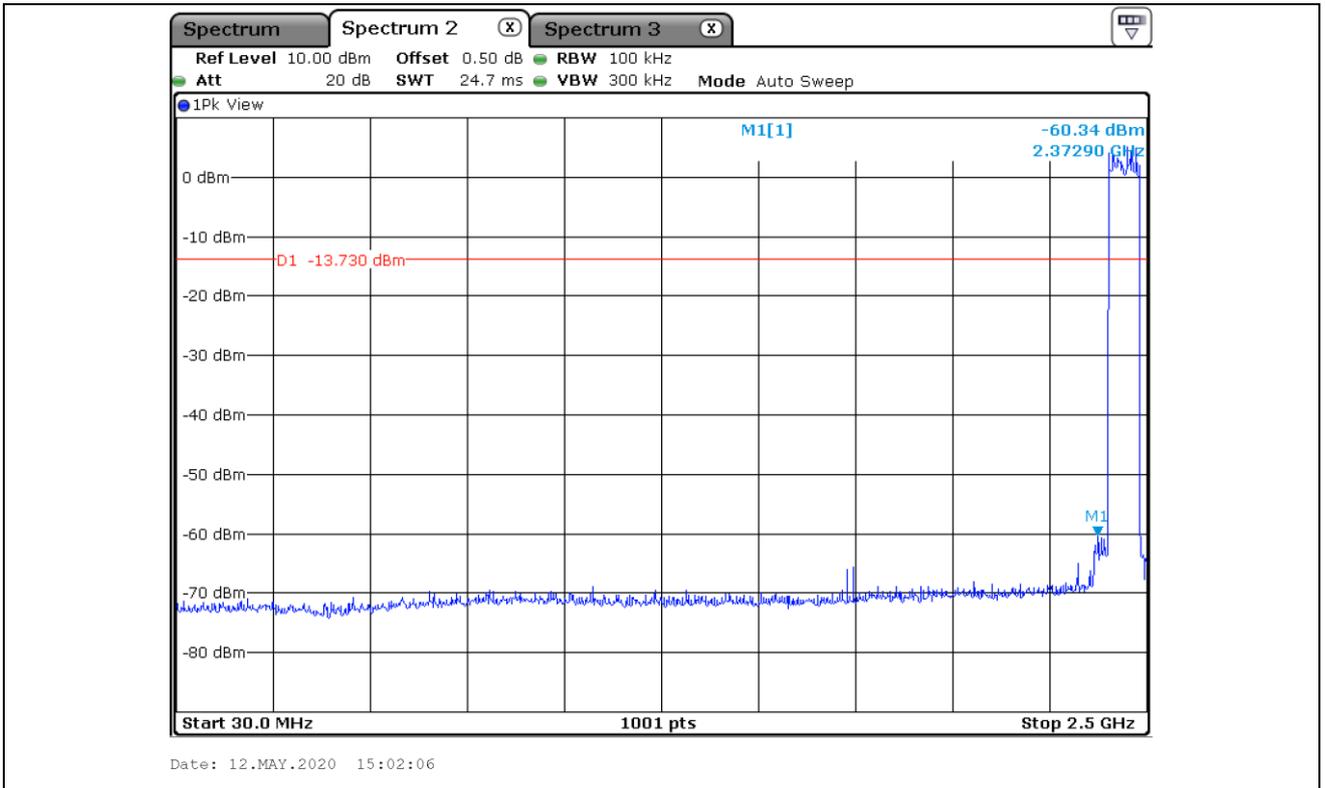
Middle Channel



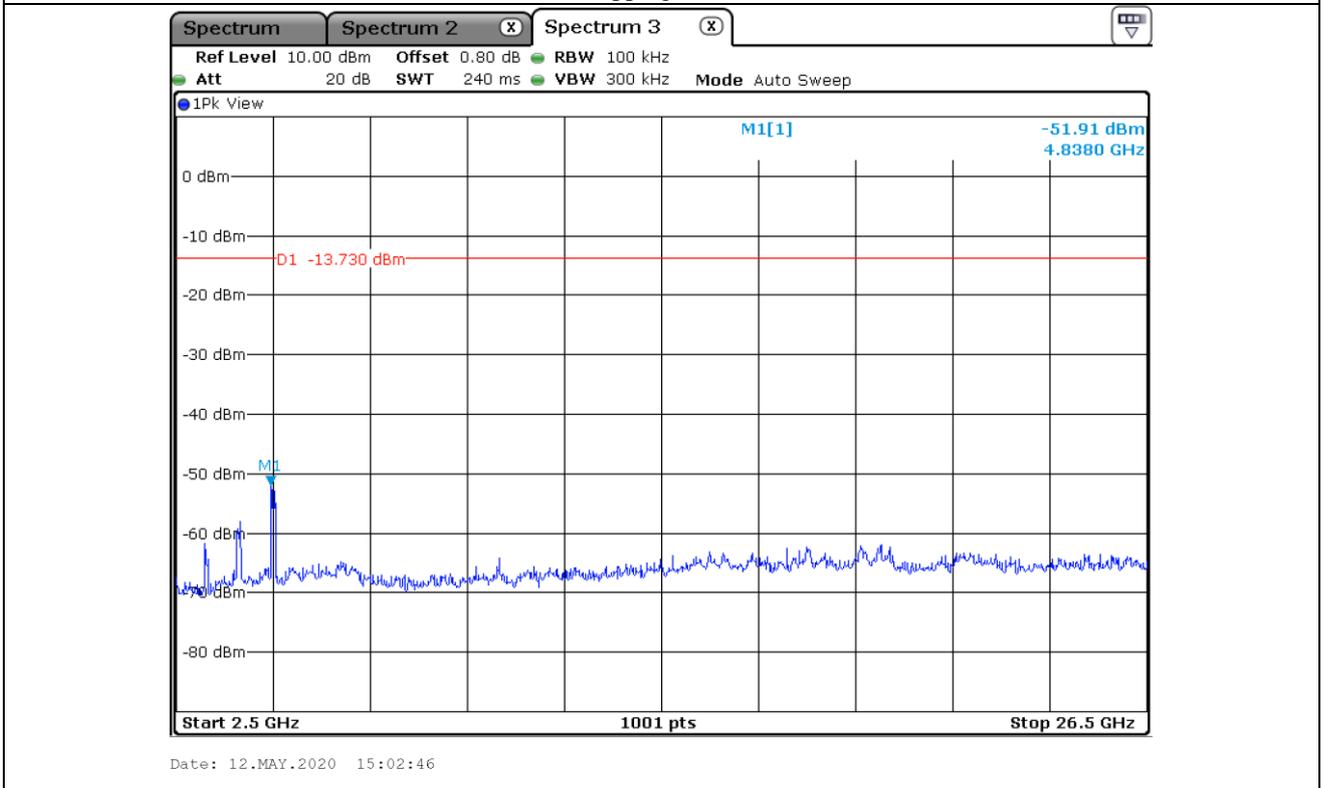
High Channel



High Channel



Hopping Mode



Hopping Mode

12.6 Test data for Transmitting mode radiated emission

12.6.1 Radiated Emission which fall in the Restricted Band

12.6.1.1 Test data for 1 Mbps

12.6.1.1.2 Test data for Bluetooth Earbud LEFT

- . Test Date : April 16, 2020 ~ April 23, 2020
- . Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- . Video bandwidth : 3 MHz for Peak and Average Mode
- . Measurement distance : 3 m
- . Duty Cycle : 100.00 %
- . Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 364.305	13.99	Peak	H	26.94	9.20	-	50.13	74.00	23.87
2 311.318	3.38	Average	H			-	39.52	54.00	14.48
2 351.998	14.56	Peak	V			-	50.70	74.00	23.30
2 310.439	3.31	Average	V			-	39.45	54.00	14.55
Test Data for High Channel									
2 484.711	15.72	Peak	H	27.47	9.49	-	52.68	74.00	21.32
2 483.508	3.80	Average	H			-	40.76	54.00	13.24
2 494.734	15.50	Peak	V			-	52.46	74.00	21.54
2 483.508	2.75	Average	V			-	39.71	54.00	14.29

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

12.6.1.1.2 Test data for Bluetooth Earbud RIGHT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 364.318	13.36	Peak	H	26.94	9.20	-	49.50	74.00	24.50
2 311.328	3.34	Average	H			-	39.48	54.00	14.52
2 351.853	14.26	Peak	V			-	50.40	74.00	23.60
2 310.448	4.15	Average	V			-	40.29	54.00	13.71
Test Data for High Channel									
2 484.753	15.47	Peak	H	27.47	9.49	-	52.43	74.00	21.57
2 483.508	4.00	Average	H			-	40.96	54.00	13.04
2 494.734	15.76	Peak	V			-	52.72	74.00	21.28
2 483.511	2.59	Average	V			-	39.55	54.00	14.45

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

12.6.1.2 Test data for 2 Mbps

12.6.1.2.1 Test data for Bluetooth Earbud LEFT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 310.040	13.87	Peak	H	26.94	9.20	-	50.01	74.00	23.99
2 310.040	3.12	Average	H			-	39.26	54.00	14.74
2 311.958	14.16	Peak	V			-	50.30	74.00	23.70
2 310.599	3.13	Average	V			-	39.27	54.00	14.73
Test Data for High Channel									
2 483.508	15.45	Peak	H	27.47	9.49	-	52.41	74.00	21.59
2 483.508	4.23	Average	H			-	41.19	54.00	12.81
2 483.904	14.52	Peak	V			-	51.48	74.00	22.52
2 483.508	2.90	Average	V			-	39.86	54.00	14.14

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

12.6.1.2.2 Test data for Bluetooth Earbud RIGHT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode
1 MHz and RMS Detector for Average Mode
- Video bandwidth : 3 MHz for Peak and Average Mode
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
2 310.112	13.28	Peak	H	26.94	9.20	-	49.42	74.00	24.58
2 310.112	3.45	Average	H			-	39.59	54.00	14.41
2 311.758	13.69	Peak	V			-	49.83	74.00	24.17
2 310.653	3.48	Average	V			-	39.62	54.00	14.38
Test Data for High Channel									
2 483.508	15.82	Peak	H	27.47	9.49	-	52.78	74.00	21.22
2 483.508	4.72	Average	H			-	41.68	54.00	12.32
2 483.912	15.26	Peak	V			-	52.22	74.00	21.78
2 483.508	3.37	Average	V			-	40.33	54.00	13.67

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

12.6.2 Spurious & Harmonic Radiated Emission above 1 GHz

12.6.2.1 Test data for 1 Mbps

12.6.2.1.1 Test data for Bluetooth Earbud LEFT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 804.00	15.79	Peak	H	28.84	10.31	-	54.94	74.00	19.06
	4.04	Average	H			-	43.19	54.00	10.81
	15.92	Peak	V			-	55.07	74.00	18.93
	4.21	Average	V			-	43.36	54.00	10.64
Test Data for Middle Channel									
4 882.00	15.11	Peak	H	28.01	10.43	-	53.55	74.00	20.45
	4.09	Average	H			-	42.53	54.00	11.47
	15.86	Peak	V			-	54.30	74.00	19.70
	4.25	Average	V			-	42.69	54.00	11.31
Test Data for High Channel									
4 960.00	15.45	Peak	H	29.15	10.81	-	55.41	74.00	18.59
	3.44	Average	H			-	43.40	54.00	10.60
	15.13	Peak	V			-	55.09	74.00	18.91
	3.92	Average	V			-	43.88	54.00	10.12

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

Margin (dB) = Limits (dBμV/m) - Total Level (dBμV/m)

Total Level = Reading + Antenna Factor + Cable Loss + Correction Factor



Tested by: Hyung-Kwon, Oh / Manager

12.6.2.1.2 Test data for Bluetooth Earbud RIGHT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 804.00	15.48	Peak	H	28.84	10.31	-	54.63	74.00	19.37
	4.03	Average	H			-	43.18	54.00	10.82
	15.87	Peak	V			-	55.02	74.00	18.98
	4.00	Average	V			-	43.15	54.00	10.85
Test Data for Middle Channel									
4 882.00	15.28	Peak	H	28.01	10.43	-	53.72	74.00	20.28
	4.39	Average	H			-	42.83	54.00	11.17
	15.60	Peak	V			-	54.04	74.00	19.96
	4.28	Average	V			-	42.72	54.00	11.28
Test Data for High Channel									
4 960.00	15.71	Peak	H	29.15	10.81	-	55.67	74.00	18.33
	4.51	Average	H			-	44.47	54.00	9.53
	15.26	Peak	V			-	55.22	74.00	18.78
	4.05	Average	V			-	44.01	54.00	9.99

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

12.6.2.2 Test data for 2 Mbps

12.6.2.2.1 Test data for Bluetooth Earbud LEFT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 804.00	15.50	Peak	H	28.84	10.31	-	54.65	74.00	19.35
	4.27	Average	H			-	43.42	54.00	10.58
	15.03	Peak	V			-	54.18	74.00	19.82
	4.80	Average	V			-	43.95	54.00	10.05
Test Data for Middle Channel									
4 882.00	15.23	Peak	H	28.01	10.43	-	53.67	74.00	20.33
	4.21	Average	H			-	42.65	54.00	11.35
	15.12	Peak	V			-	53.56	74.00	20.44
	4.02	Average	V			-	42.46	54.00	11.54
Test Data for High Channel									
4 960.00	15.52	Peak	H	29.15	10.81	-	55.48	74.00	18.52
	3.93	Average	H			-	43.89	54.00	10.11
	15.88	Peak	V			-	55.84	74.00	18.16
	4.06	Average	V			-	44.02	54.00	9.98

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

12.6.2.2.2 Test data for Bluetooth Earbud RIGHT

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz and Peak Detector for Peak Mode for the emissions fall in restricted band,
1 MHz and RMS Detector for Average Mode for the emissions fall in restricted band
100 kHz for Peak Mode for the emissions outside restricted band
- Video bandwidth : 3 MHz for Peak and Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m
- Duty Cycle : 100.00 %
- Result : PASSED

Frequency (MHz)	Reading (dBμV)	Detector Mode	Ant. Pol. (H/V)	Ant. Factor	Cable Loss	C.F (dB)	Total (dBμV/m)	Limits (dBμV/m)	Margin (dB)
Test Data for Low Channel									
4 804.00	15.41	Peak	H	28.84	10.31	-	54.56	74.00	19.44
	3.99	Average	H			-	43.14	54.00	10.86
	15.62	Peak	V			-	54.77	74.00	19.23
	4.16	Average	V			-	43.31	54.00	10.69
Test Data for Middle Channel									
4 882.00	15.27	Peak	H	28.01	10.43	-	53.71	74.00	20.29
	4.49	Average	H			-	42.93	54.00	11.07
	15.22	Peak	V			-	53.66	74.00	20.34
	4.32	Average	V			-	42.76	54.00	11.24
Test Data for High Channel									
4 960.00	15.62	Peak	H	29.15	10.81	-	55.58	74.00	18.42
	4.13	Average	H			-	44.09	54.00	9.91
	15.87	Peak	V			-	55.83	74.00	18.17
	4.24	Average	V			-	44.20	54.00	9.80

Tabulated test data for Restricted Band

Remark: "H": Horizontal, "V": Vertical

$$\text{Margin (dB)} = \text{Limits (dB}\mu\text{V/m)} - \text{Total Level (dB}\mu\text{V/m)}$$

$$\text{Total Level} = \text{Reading} + \text{Antenna Factor} + \text{Cable Loss} + \text{Correction Factor}$$



Tested by: Hyung-Kwon, Oh / Manager

13. RADIATED EMISSION TEST

13.1 Operating environment

Temperature : 23 °C
 Relative humidity : 45 % R.H.

13.2 Test set-up

The radiated emissions measurements were on the 10 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 MHz to 26.5 GHz was scanned and emission levels maximized at each frequency recorded. The system was rotated 360°, and the antenna was varied in height between 1.0 m and 4.0 m in order to determine the maximum emission levels. This procedure was performed for both horizontal and vertical polarization of the receiving antenna.

13.3 Test equipment used

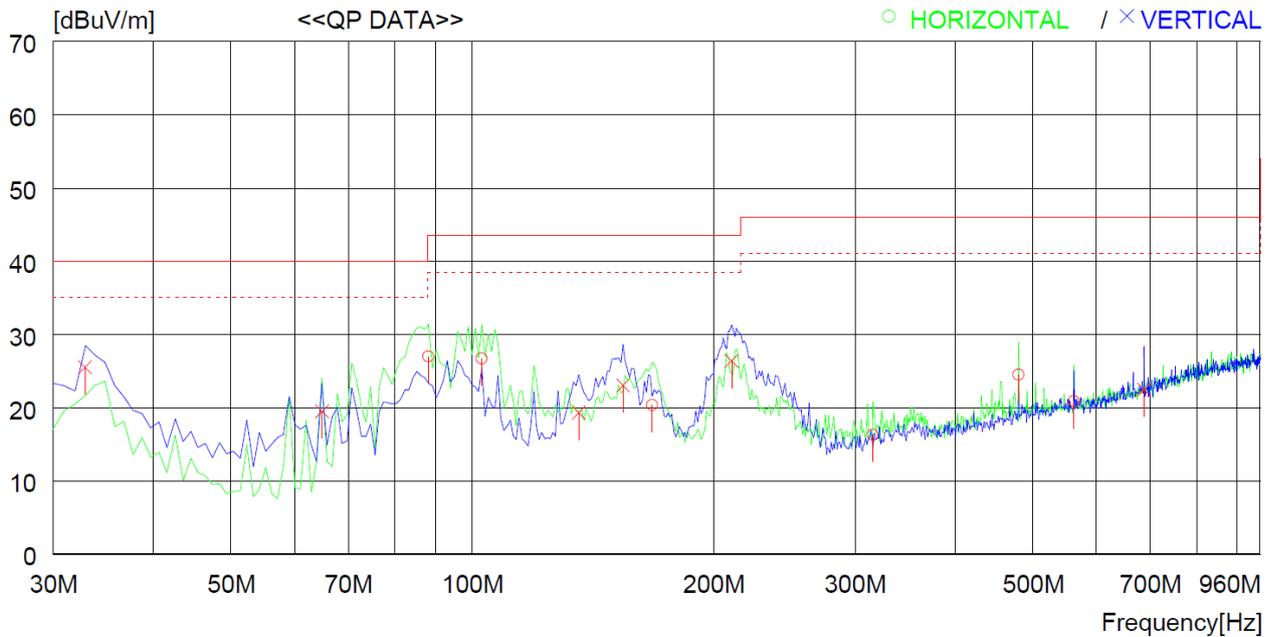
Model Number	Manufacturer	Description	Serial Number	Last Cal.
■ - FSV40	Rohde & Schwarz	Signal Analyzer	101009	Feb. 21, 2020 (1Y)
■ - ESW	Rohde & Schwarz	EMI Test Receiver	101851	Aug. 07, 2019 (1Y)
■ - 310N	Sonoma Instrument	Pre-Amplifier	312544	Mar. 16, 2020 (1Y)
■ - BBV 9718 B	Schwarzbeck	Broadband Preamplifier	00009	Mar. 16, 2020 (1Y)
■ - SCU40A	Rohde & Schwarz	Signal Conditioning unit	100436	Feb. 20, 2020 (1Y)
■ - SCU18	Rohde & Schwarz	Signal Conditioning unit	102266	Jul. 24, 2019(1Y)
■ - DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
■ - MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
■ - VULB9163	Schwarzbeck	TRILOG Broadband Antenna	777	Apr. 08, 2020 (2Y)
■ - BBHA9120D	Schwarzbeck	Horn Antenna	9120D-1366	Jul. 16, 2019 (1Y)
■ - BBHA9170	Schwarzbeck	Horn Antenna	BBHA9170178	Jan. 07, 2020(1Y)

All test equipment used is calibrated on a regular basis.

13.4 Test data for Bluetooth Earbud LEFT

13.4.1 Test data for 30 MHz ~ 960 MHz

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 120 kHz
- Measurement distance : 3 m



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	88.200	51.0	7.8	0.9	32.7	27.0	43.5	16.5	300	178
2	102.750	48.9	9.6	0.9	32.7	26.7	43.5	16.8	300	359
3	167.740	38.9	12.8	1.2	32.6	20.3	43.5	23.2	300	25
4	316.150	33.3	14.0	1.7	32.7	16.3	46.0	29.7	100	292
5	480.081	37.8	17.5	2.1	32.9	24.5	46.0	21.5	100	359
6	562.529	32.5	19.1	2.3	33.0	20.9	46.0	25.1	100	176
----- Vertical -----										
7	32.910	46.6	11.0	0.5	32.6	25.5	40.0	14.5	100	36
8	64.920	42.4	9.1	0.7	32.7	19.5	40.0	20.5	100	229
9	135.730	40.1	10.8	1.1	32.7	19.3	43.5	24.2	100	0
10	154.160	42.3	12.1	1.2	32.6	23.0	43.5	20.5	100	196
11	210.420	45.5	12.1	1.4	32.6	26.4	43.5	17.1	100	0
12	687.655	32.1	20.8	2.5	32.9	22.5	46.0	23.5	200	287

Tested by: Hyung-Kwon, Oh / Manager

13.4.2 Test data for Below 30 MHz

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- Frequency range : 9 kHz ~ 30 MHz
- Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.								

13.4.3 Test data for above 1 GHz

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.								

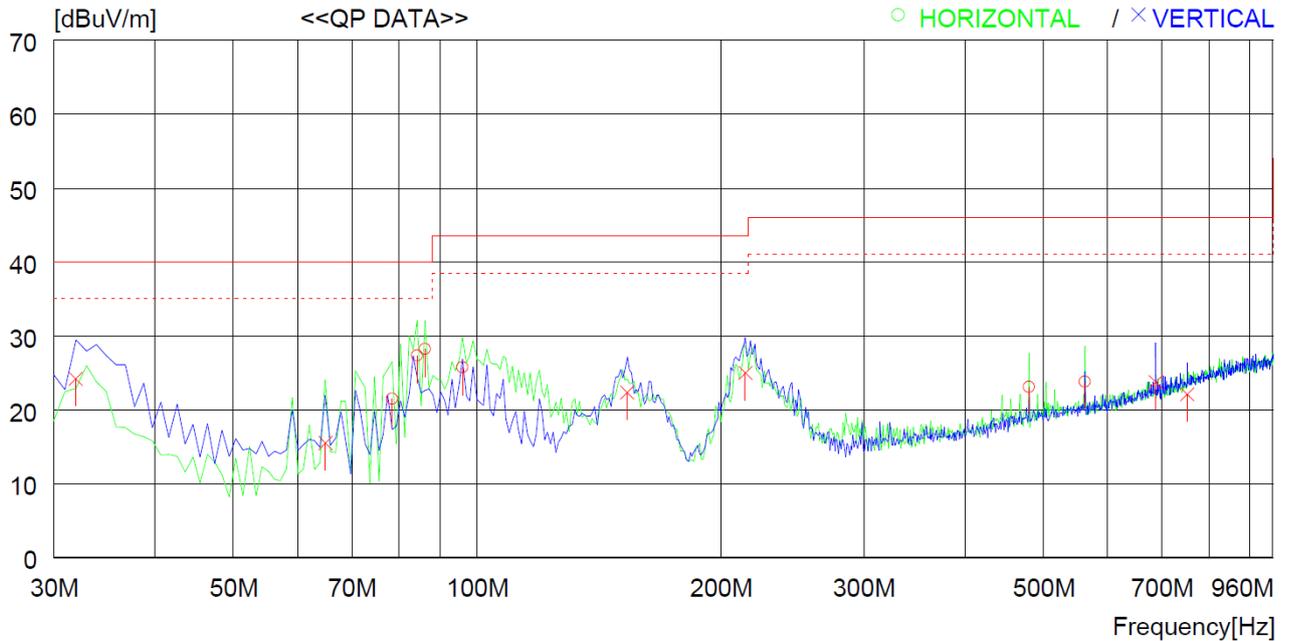


Tested by: Hyung-Kwon, Oh / Manager

13.5 Test data for Bluetooth Earbud RIGHT

13.5.1 Test data for 30 MHz ~ 960 MHz

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 120 kHz
- Measurement distance : 3 m



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	78.500	45.5	7.9	0.8	32.7	21.5	40.0	18.5	400	0
2	84.320	51.4	7.8	0.8	32.7	27.3	40.0	12.7	400	0
3	86.260	52.2	7.8	0.9	32.7	28.2	40.0	11.8	400	311
4	95.960	48.7	8.8	0.9	32.7	25.7	43.5	17.8	300	359
5	480.081	36.4	17.5	2.1	32.9	23.1	46.0	22.9	100	359
6	562.529	35.4	19.1	2.3	33.0	23.8	46.0	22.2	100	359
----- Vertical -----										
7	31.940	45.4	10.9	0.5	32.6	24.2	40.0	15.8	200	359
8	64.920	38.4	9.1	0.7	32.7	15.5	40.0	24.5	100	0
9	153.190	41.7	12.0	1.2	32.6	22.3	43.5	21.2	100	0
10	214.300	44.3	11.9	1.4	32.6	25.0	43.5	18.5	100	233
11	687.655	33.3	20.8	2.5	32.9	23.7	46.0	22.3	200	299
12	752.643	31.0	21.5	2.3	32.7	22.1	46.0	23.9	400	359

Tested by: Hyung-Kwon, Oh / Manager

13.5.2 Test data for Below 30 MHz

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 200 Hz (from 9 kHz to 0.15 MHz), 9 kHz (from 0.15 MHz to 30 MHz)
- Frequency range : 9 kHz ~ 30 MHz
- Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.								

13.5.3 Test data for above 1 GHz

- Test Date : April 16, 2020 ~ April 23, 2020
- Resolution bandwidth : 1 MHz for Peak and Average Mode
- Video bandwidth : 1 MHz for Peak Mode, 10 Hz for Average Mode
- Frequency range : 1 GHz ~ 26.5 GHz
- Measurement distance : 3 m

Frequency (MHz)	Reading (dBμV)	Ant. Pol. (H/V)	Ant. Factor (dB/m)	Cable Loss	Amp Gain	Emission Level(dBμV/m)	Limits (dBμV/m)	Margin (dB)
Emission from the EUT more than 20 dB below the limit in each frequency range.								



Tested by: Hyung-Kwon, Oh / Manager