

Client: Icon Health & Fitness

Date: 22 Oct 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: General limit of 15.209

Tech: CL Payne

Mid Channel: 2440 MHz

Result: Pass

Radiated Spurious												
Freq in MHz	Meter Reading (dBuV/m)	Pre-Amp (dB)	Cable (dB)	Antenna (dB)	Corr'd Reading (dBuV/m)	Limit (dBuV/m)	Delta	Azimuth (degrees)	Height (m)	Polarity	Meas Type	Axis
4880.000	32.5	25.9	5.9	32.9	45.39	74.0	-28.61	330	1	Horz	Peak	X
4880.000	21.5	25.9	5.9	32.9	34.33	54.0	-19.67	330	1	Horz	Ave	X
7320.000	32.2	25.3	7.6	35.8	50.36	74.0	-23.64	330	1	Horz	Peak	X
7320.000	19.8	25.3	7.6	35.8	37.93	54.0	-16.07	330	1	Horz	Ave	X
9760.000	30.4	24.5	9.2	38.0	53.12	74.0	-20.88	332	1	Horz	Peak	X
9760.000	19.0	24.5	9.2	38.0	41.75	54.0	-12.25	332	1	Horz	Ave	X
4880.000	32.0	25.9	5.9	32.9	44.87	74.0	-29.13	127	1	Vert	Peak	X
4880.000	21.0	25.9	5.9	32.9	33.87	54.0	-20.13	127	1	Vert	Ave	X
7320.000	31.8	25.3	7.6	35.8	49.98	74.0	-24.02	127	1	Vert	Peak	X
7320.000	19.5	25.3	7.6	35.8	37.68	54.0	-16.32	127	1	Vert	Ave	X
9760.000	30.9	24.5	9.2	38.0	53.58	74.0	-20.42	127	1	Vert	Peak	X
9760.000	19.2	24.5	9.2	38.0	41.87	54.0	-12.13	127	1	Vert	Ave	X
4880.000	32.8	25.9	5.9	32.9	45.62	74.0	-28.38	200	1.9	Horz	Peak	Y
4880.000	21.1	25.9	5.9	32.9	33.95	54.0	-20.05	200	1.9	Horz	Ave	Y
7320.000	30.6	25.3	7.6	35.8	48.75	74.0	-25.25	201	1.9	Horz	Peak	Y
7320.000	20.1	25.3	7.6	35.8	38.24	54.0	-15.76	201	1.9	Horz	Ave	Y
9760.000	30.2	24.5	9.2	38.0	52.91	74.0	-21.09	200	1.89	Horz	Peak	Y
9760.000	19.1	24.5	9.2	38.0	41.81	54.0	-12.19	200	1.89	Horz	Ave	Y
4880.000	32.4	25.9	5.9	32.9	45.24	74.0	-28.76	112	1	Vert	Peak	Y
4880.000	20.9	25.9	5.9	32.9	33.72	54.0	-20.28	112	1	Vert	Ave	Y
7320.000	30.5	25.3	7.6	35.8	48.69	74.0	-25.31	112	1	Vert	Peak	Y
7320.000	19.6	25.3	7.6	35.8	37.72	54.0	-16.28	112	1	Vert	Ave	Y
9760.000	31.7	24.5	9.2	38.0	54.40	74.0	-19.60	112	1	Vert	Peak	Y
9760.000	19.0	24.5	9.2	38.0	41.75	54.0	-12.25	112	1	Vert	Ave	Y
4880.000	33.8	25.9	5.9	32.9	46.67	74.0	-27.33	100	1.15	Horz	Peak	Z
4880.000	20.9	25.9	5.9	32.9	33.79	54.0	-20.21	100	1.15	Horz	Ave	Z
7320.000	31.4	25.3	7.6	35.8	49.53	74.0	-24.47	100	1.15	Horz	Peak	Z
7320.000	19.6	25.3	7.6	35.8	37.70	54.0	-16.30	100	1.15	Horz	Ave	Z
9760.000	30.0	24.5	9.2	38.0	52.74	74.0	-21.26	100	1.15	Horz	Peak	Z
9760.000	19.1	24.5	9.2	38.0	41.80	54.0	-12.20	100	1.15	Horz	Ave	Z
4880.000	34.3	25.9	5.9	32.9	47.17	74.0	-26.83	264	1	Vert	Peak	Z
4880.000	28.8	25.9	5.9	32.9	41.66	54.0	-12.34	264	1	Vert	Ave	Z
7320.000	31.7	25.3	7.6	35.8	49.83	74.0	-24.17	264	1	Vert	Peak	Z
7320.000	19.6	25.3	7.6	35.8	37.75	54.0	-16.25	264	1	Vert	Ave	Z
9760.000	31.9	24.5	9.2	38.0	54.61	74.0	-19.39	264	1	Vert	Peak	Z
9760.000	19.1	24.5	9.2	38.0	41.82	54.0	-12.18	264	1	Vert	Ave	Z

Client: Icon Health & Fitness

Date: 22 Oct 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: General limit of 15.209

Tech: CL Payne

High Channel: 2480 MHz

Result: Pass

Radiated Spurious												
Freq in MHz	Meter Reading (dBuV/m)	Pre-Amp (dB)	Cable (dB)	Antenna (dB)	Corr'd Reading (dBuV/m)	Limit (dBuV/m)	Delta	Azimuth (degrees)	Height (m)	Polarity	Meas Type	Axis
4960.000	43.6	25.8	5.9	33.0	56.66	74.0	-17.34	0	1.22	Horz	Peak	X
4960.000	31.5	25.8	5.9	33.0	44.49	54.0	-9.51	0	1.22	Horz	Ave	X
7440.000	39.1	25.3	7.7	35.9	57.48	74.0	-16.52	0	1.22	Horz	Peak	X
7440.000	27.3	25.3	7.7	35.9	45.74	54.0	-8.26	0	1.22	Horz	Ave	X
9920.000	39.5	24.4	9.3	38.1	62.42	74.0	-11.58	0	1.22	Horz	Peak	X
9920.000	28.0	24.4	9.3	38.1	50.93	54.0	-3.07	0	1.22	Horz	Ave	X
4960.000	40.4	25.8	5.9	33.0	53.39	74.0	-20.61	216	1.25	Vert	Peak	X
4960.000	29.1	25.8	5.9	33.0	42.18	54.0	-11.82	216	1.25	Vert	Ave	X
7440.000	39.3	25.3	7.7	35.9	57.69	74.0	-16.31	215	1.26	Vert	Peak	X
7440.000	27.4	25.3	7.7	35.9	45.78	54.0	-8.22	215	1.26	Vert	Ave	X
9920.000	40.7	24.4	9.3	38.1	63.63	74.0	-10.37	215	1.26	Vert	Peak	X
9920.000	28.0	24.4	9.3	38.1	50.95	54.0	-3.05	215	1.26	Vert	Ave	X
4960.000	41.4	25.8	5.9	33.0	54.41	74.0	-19.59	200	2.42	Horz	Peak	Y
4960.000	29.7	25.8	5.9	33.0	42.69	54.0	-11.31	200	2.42	Horz	Ave	Y
7440.000	38.8	25.3	7.7	35.9	57.16	74.0	-16.84	200	2.42	Horz	Peak	Y
7440.000	27.3	25.3	7.7	35.9	45.74	54.0	-8.26	201	2.42	Horz	Ave	Y
9920.000	40.0	24.4	9.3	38.1	62.97	74.0	-11.03	202	2.42	Horz	Peak	Y
9920.000	27.9	24.4	9.3	38.1	50.87	54.0	-3.13	203	2.42	Horz	Ave	Y
4960.000	40.9	25.8	5.9	33.0	53.95	74.0	-20.05	107	1	Vert	Peak	Y
4960.000	29.3	25.8	5.9	33.0	42.31	54.0	-11.69	107	1	Vert	Ave	Y
7440.000	39.6	25.3	7.7	35.9	58.03	74.0	-15.97	110	1	Vert	Peak	Y
7440.000	27.4	25.3	7.7	35.9	45.79	54.0	-8.21	110	1	Vert	Ave	Y
9920.000	38.3	24.4	9.3	38.1	61.29	74.0	-12.71	106	1	Vert	Peak	Y
9920.000	28.0	24.4	9.3	38.1	50.94	54.0	-3.06	106	1	Vert	Ave	Y
4960.000	41.5	25.8	5.9	33.0	54.56	74.0	-19.44	92	1	Horz	Peak	Z
4960.000	29.1	25.8	5.9	33.0	42.17	54.0	-11.83	92	1	Horz	Ave	Z
7440.000	39.1	25.3	7.7	35.9	57.51	74.0	-16.49	92	1	Horz	Peak	Z
7440.000	27.3	25.3	7.7	35.9	45.73	54.0	-8.27	92	1	Horz	Ave	Z
9920.000	40.2	24.4	9.3	38.1	63.19	74.0	-10.81	92	1	Horz	Peak	Z
9920.000	28.0	24.4	9.3	38.1	50.93	54.0	-3.07	92	1	Horz	Ave	Z
4960.000	42.5	25.8	5.9	33.0	55.55	74.0	-18.45	270	1.45	Vert	Peak	Z
4960.000	30.0	25.8	5.9	33.0	43.08	54.0	-10.92	270	1.45	Vert	Ave	Z
7440.000	50.2	25.3	7.7	35.9	68.62	74.0	-5.38	270	1.45	Vert	Peak	Z
7440.000	27.3	25.3	7.7	35.9	45.70	54.0	-8.30	270	1.45	Vert	Ave	Z
9920.000	40.7	24.4	9.3	38.1	63.71	74.0	-10.29	270	1.45	Vert	Peak	Z
9920.000	28.0	24.4	9.3	38.1	50.93	54.0	-3.07	270	1.45	Vert	Ave	Z

11.12.2 Antenna-port conducted measurements

11.12.2.1 General

Antenna-port conducted measurements may also be used as an alternative to radiated measurements for determining compliance in the restricted frequency bands requirements. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case emissions is required.

11.12.2.2 General procedure for conducted measurements in restricted bands

The general procedure for conducted measurements in restricted bands is as follows:

- a) Measure the conducted output power (in dBm) using the detector specified by the appropriate regulatory agency (see 11.12.2.3 through 11.12.2.5 for guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
- b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP (see 11.12.2.6 for guidance on determining the applicable antenna gain).
- c) Add the appropriate maximum ground reflection factor to the EIRP (6 dB for frequencies ≤ 30 MHz; 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive; and 0 dB for frequencies > 1000 MHz).
- d) For MIMO devices, measure the power of each chain and sum the EIRP of all chains in linear terms (i.e., watts and mW).
- e) Convert the resultant EIRP to an equivalent electric field strength using the following relationship:

$$E = \text{EIRP} - 20 \log d + 104.8$$

where

E is the electric field strength in dB μ V/m

EIRP is the equivalent isotropically radiated power in dBm

d is the specified measurement distance in m

- f) Compare the resultant electric field strength level with the applicable regulatory limit.
- g) Perform the radiated spurious emission test.

15.247 (d) Restricted Bands - *continued*

Note: With respect to steps e) and f) a limit line (EIRP) based upon the dBuV/m limit was calculated and put on the plots to satisfy the requirement of step f) above. Formula is: $(E + 20 \log d) - 104.8 = (\text{EIRP limit})$. The appropriate correction factor from step c) was included in the final calculation.

Limit Calculation:

Formula: $E - 104.8 + 20\log(3) - \text{antenna gain} - \text{ground reflection factor}$

30 MHz - 88 MHz	$40 - 104.8 + 20\log(d) - 2 - 4.7$	= -61.96 dBm
88 MHz - 216 MHz	$43 - 104.8 + 20\log(d) - 2 - 4.7$	= -58.96 dBm
216 MHz - 960 MHz	$46 - 104.8 + 20\log(d) - 2 - 4.7$	= -55.96 dBm
960 MHz - 1000 MHz	$54 - 104.8 + 20\log(d) - 2 - 4.7$	= -47.96 dBm
> 1000 MHz	$54 - 104.8 + 20\log(d) - 2 - 0$	= -43.26 dBm

Note: $(d) = \text{Measurement distance in meters} = 3 \text{ meters}$

Requirement: FCC Part 15.247 Clause (d)

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)).

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

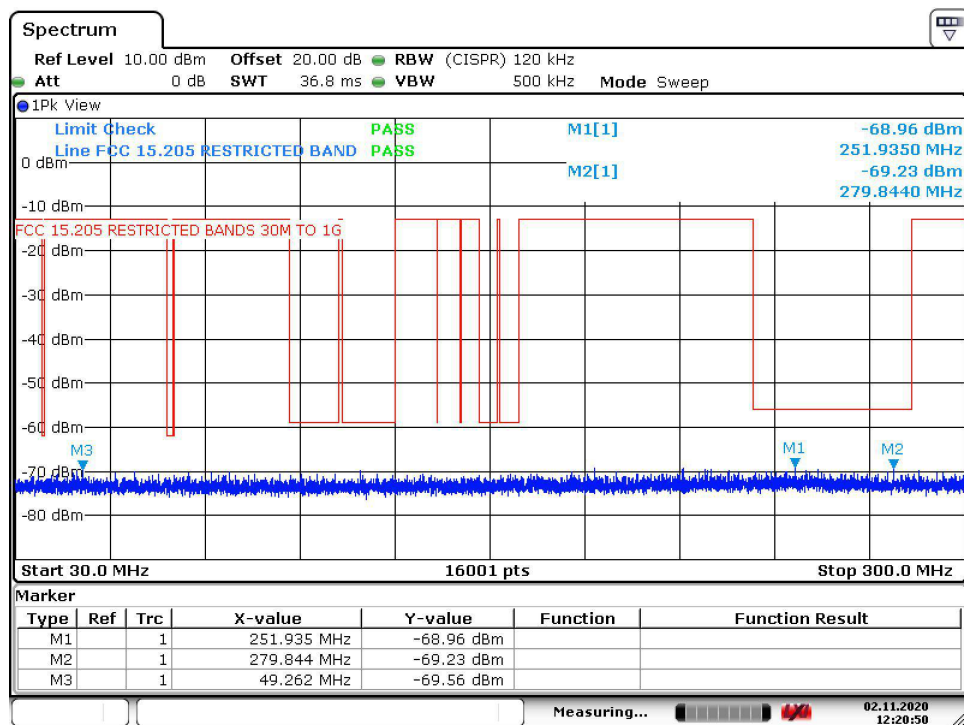
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 30 MHz to 300 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:20:51

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

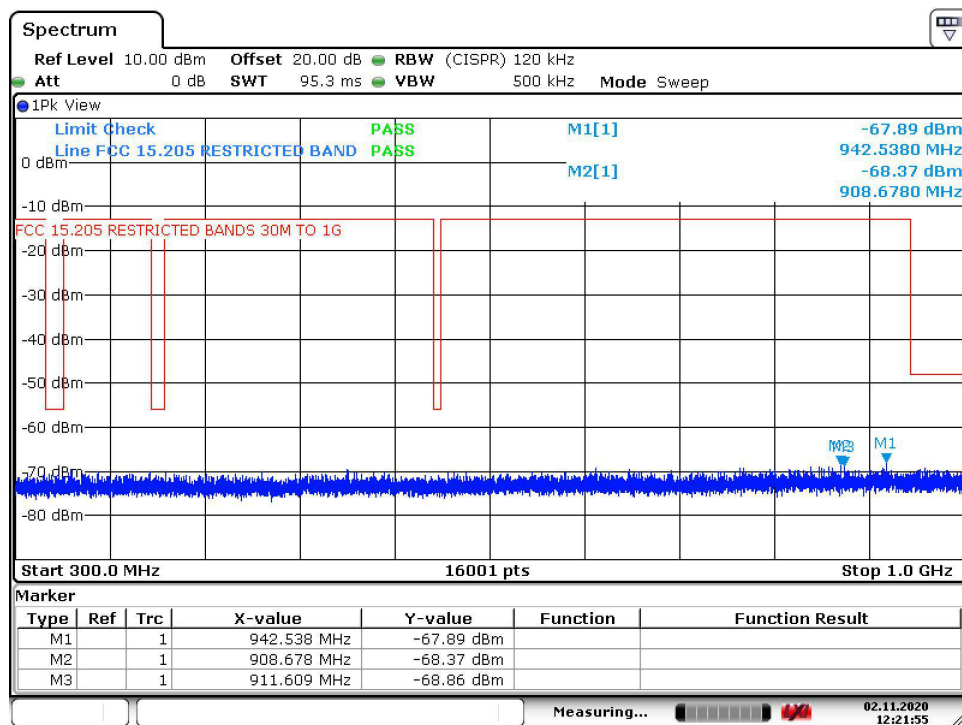
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 300 MHz to 1000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:21:55

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

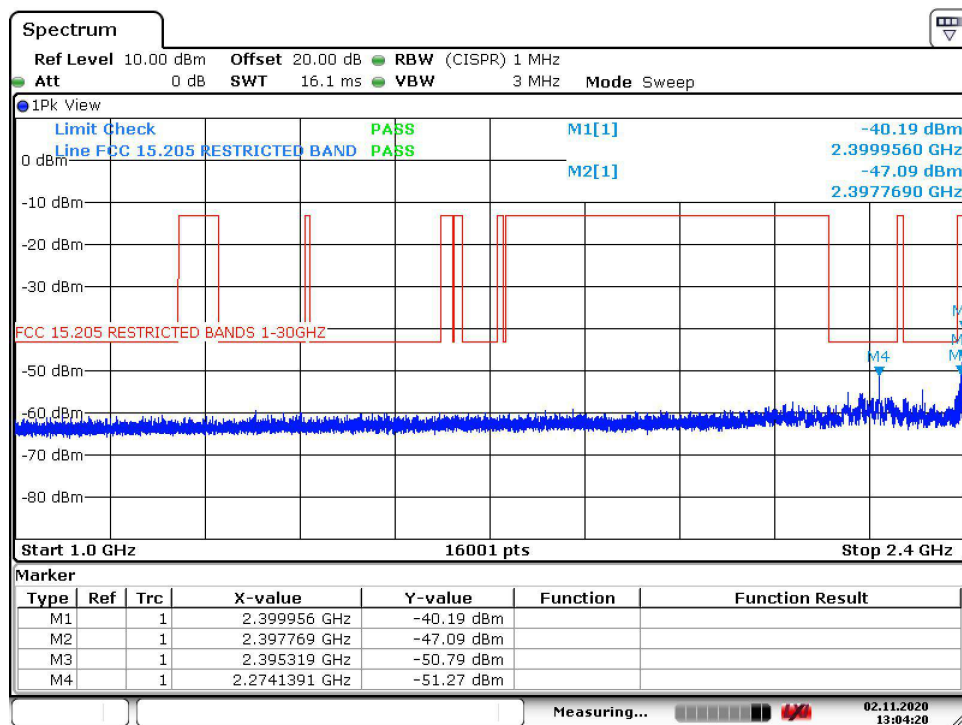
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 1000 MHz to 2400 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:04:21

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

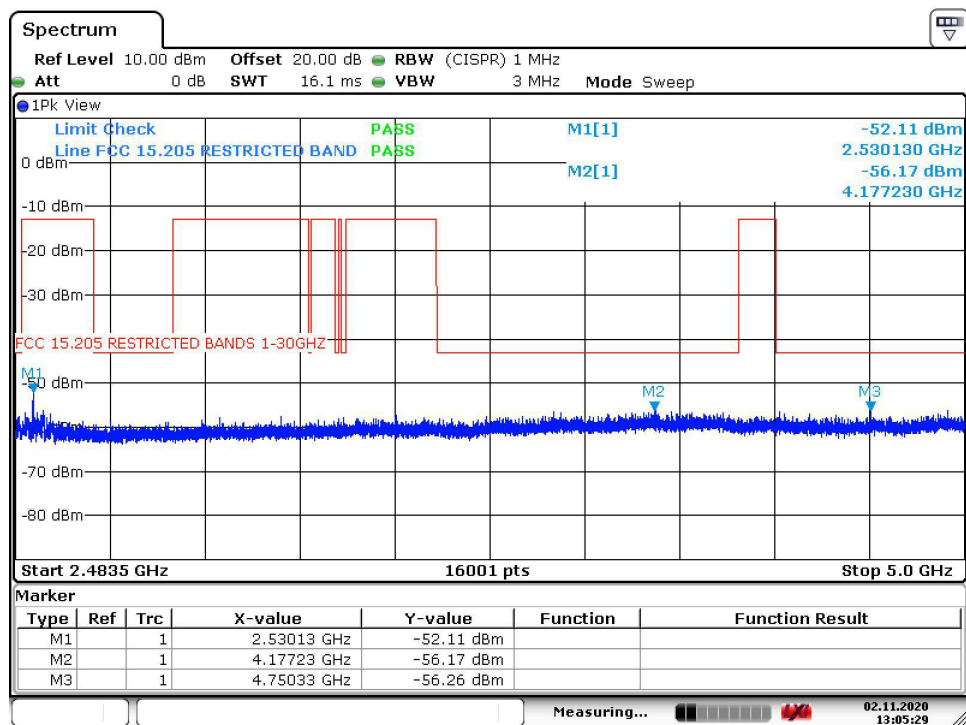
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 2483.5 MHz to 5000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:05:29

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

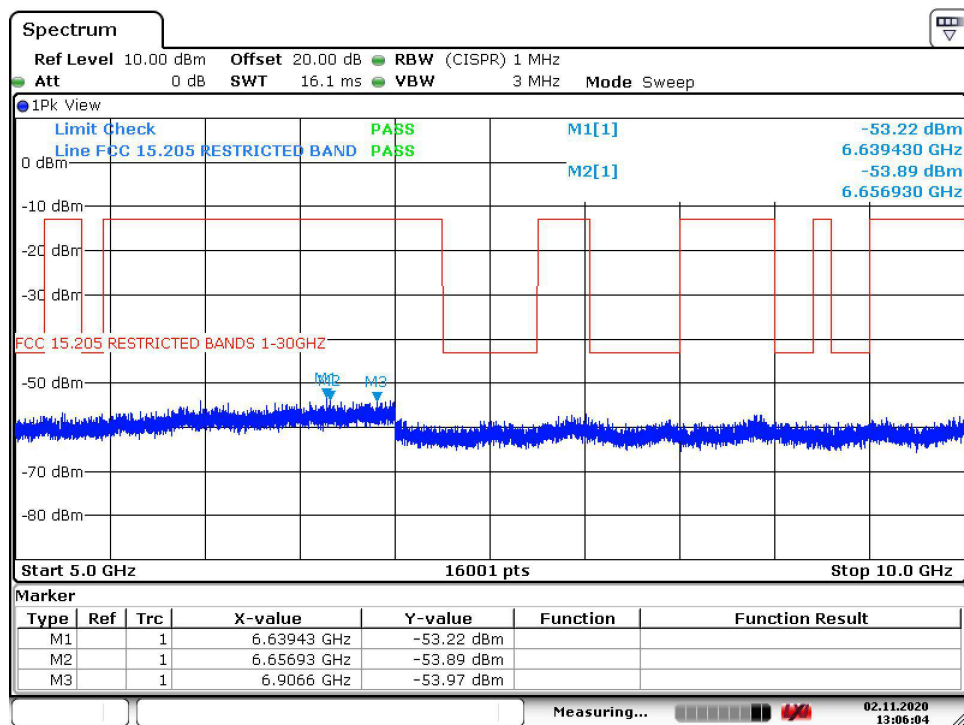
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 5000 MHz to 10000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:06:04

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

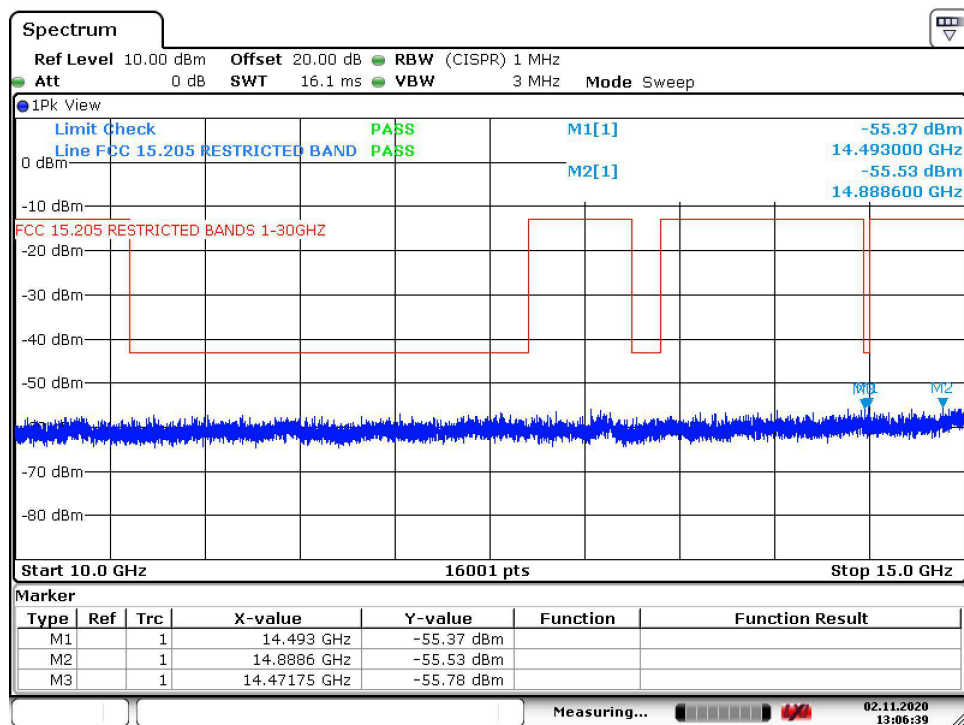
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 10000 MHz to 15000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:06:39

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

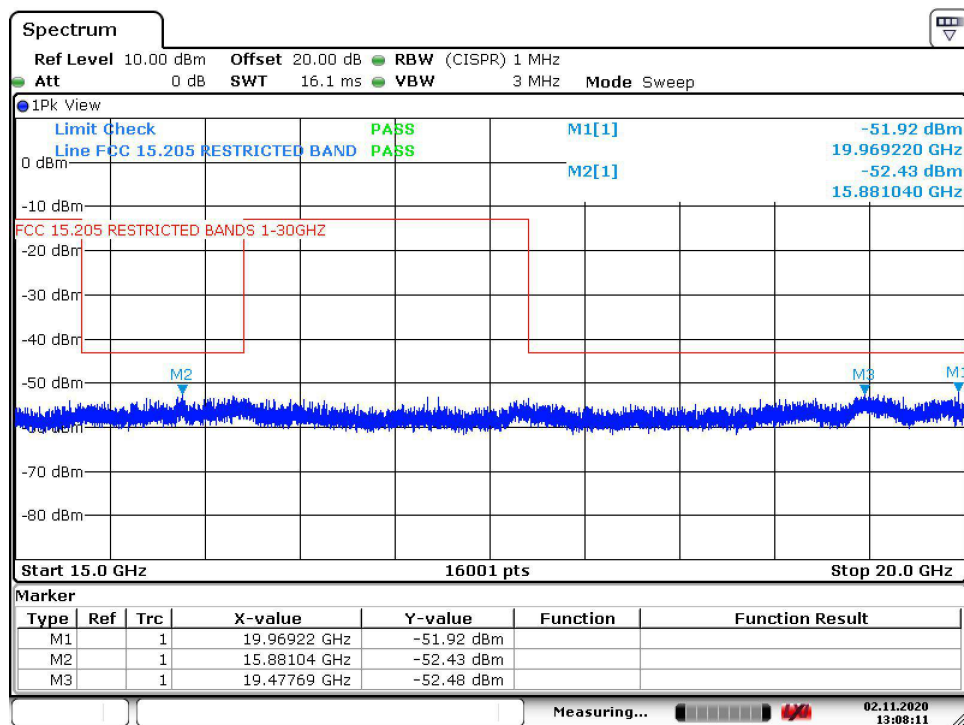
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 15000 MHz to 20000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:08:11

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

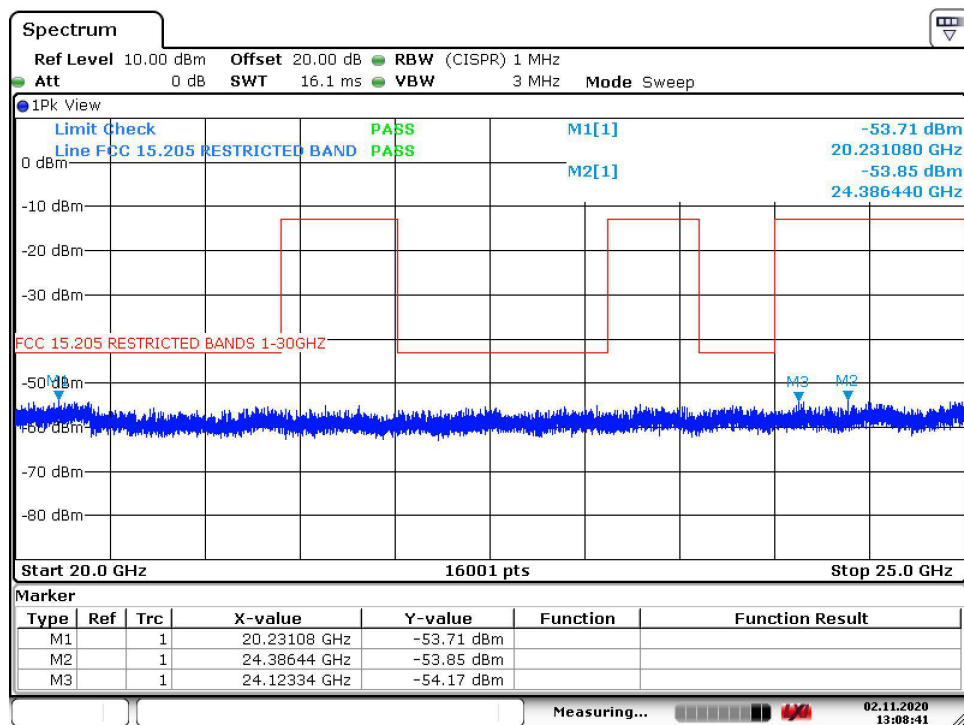
Low Channel: 2402 MHz

Data Rate: 1Mb/s

Frequency Range: 20000 MHz to 25000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:08:41

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

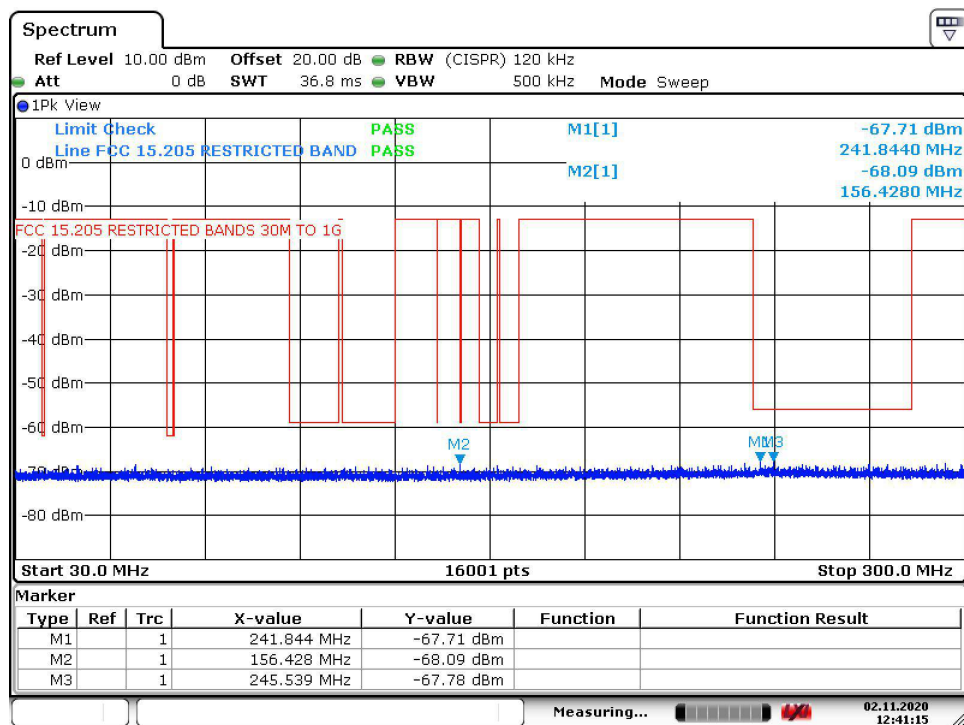
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 30 MHz to 300 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:41:15

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

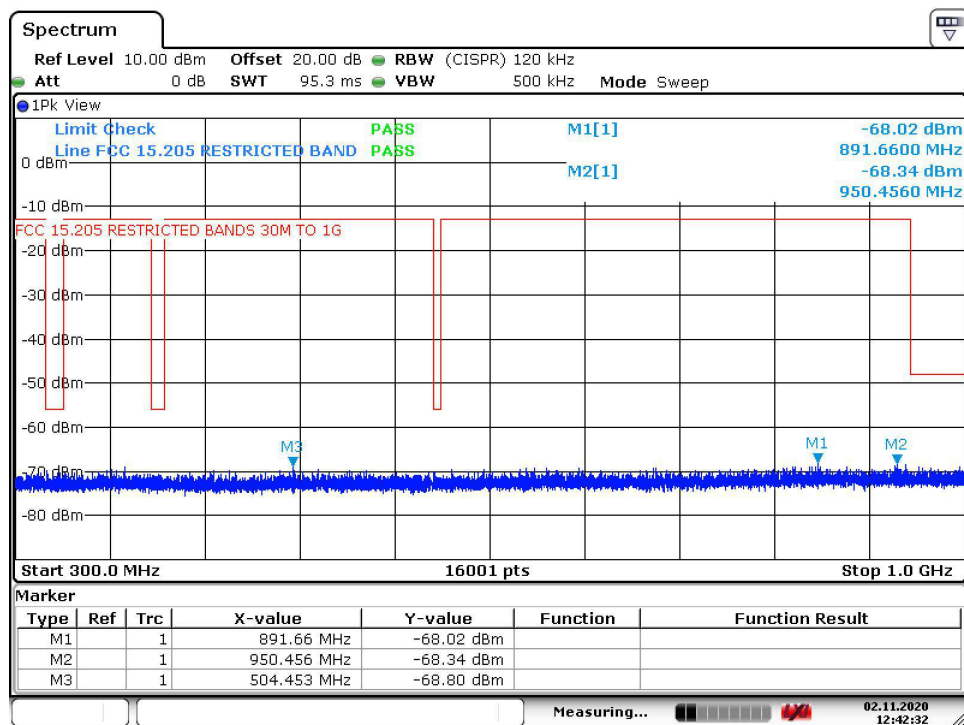
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 300 MHz to 1000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:42:33

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

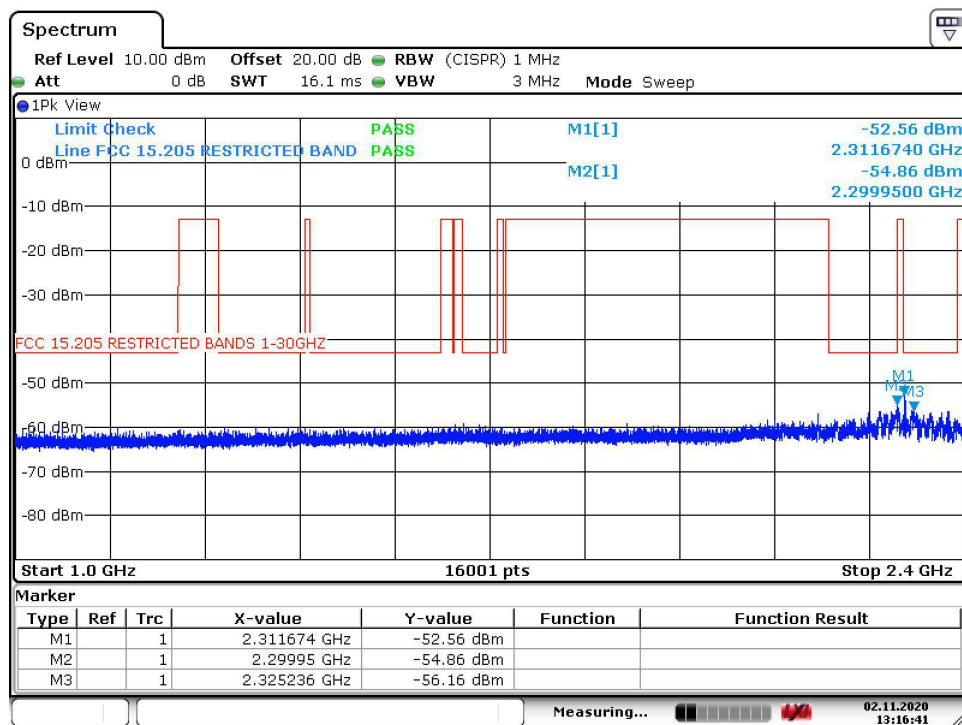
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 1000 MHz to 2400 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:16:41

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

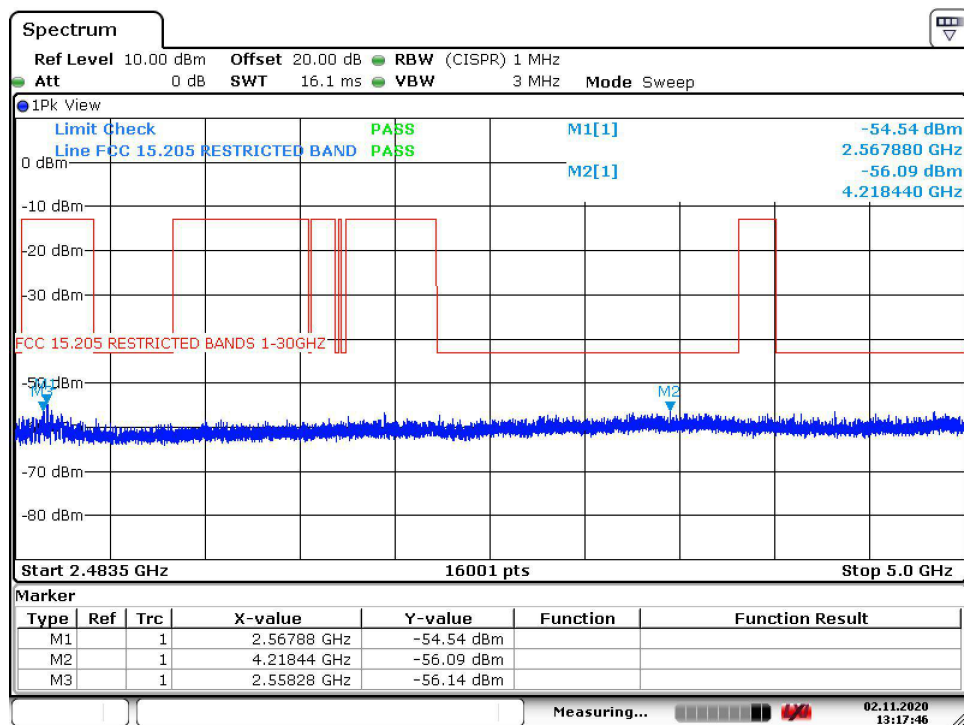
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 2483.5 MHz to 5000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:17:46

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

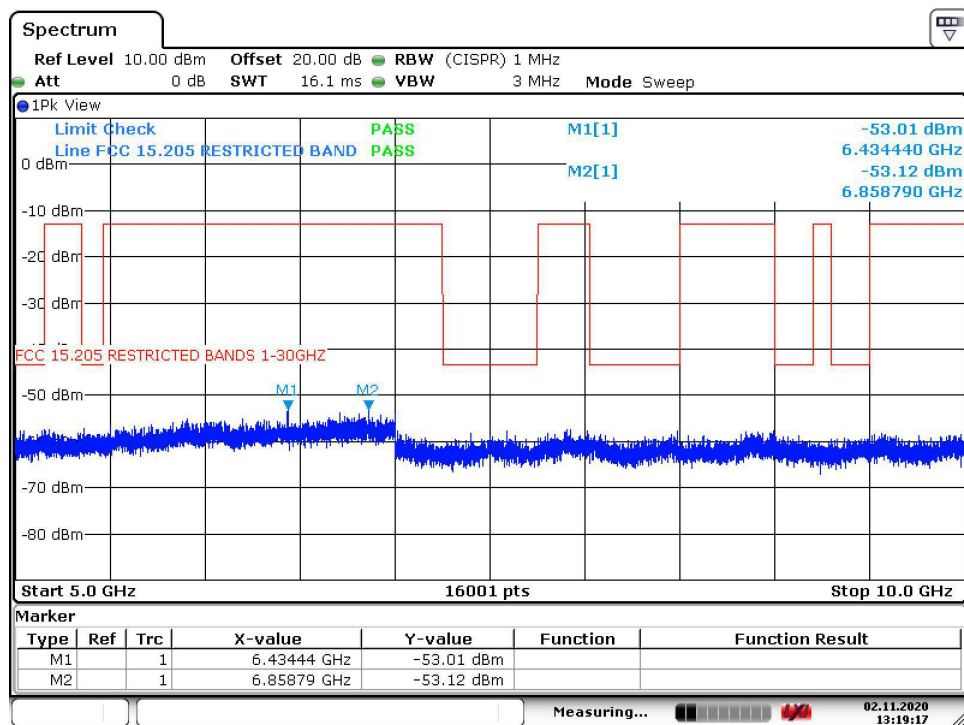
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 5000 MHz to 10000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:19:17

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

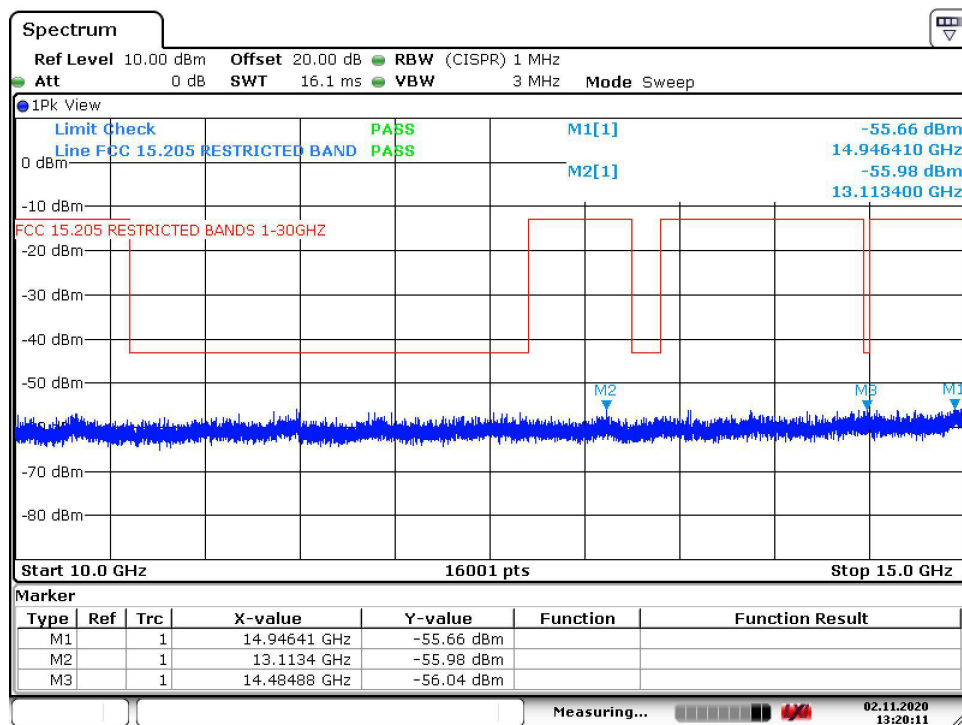
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 10000 MHz to 15000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:20:12

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

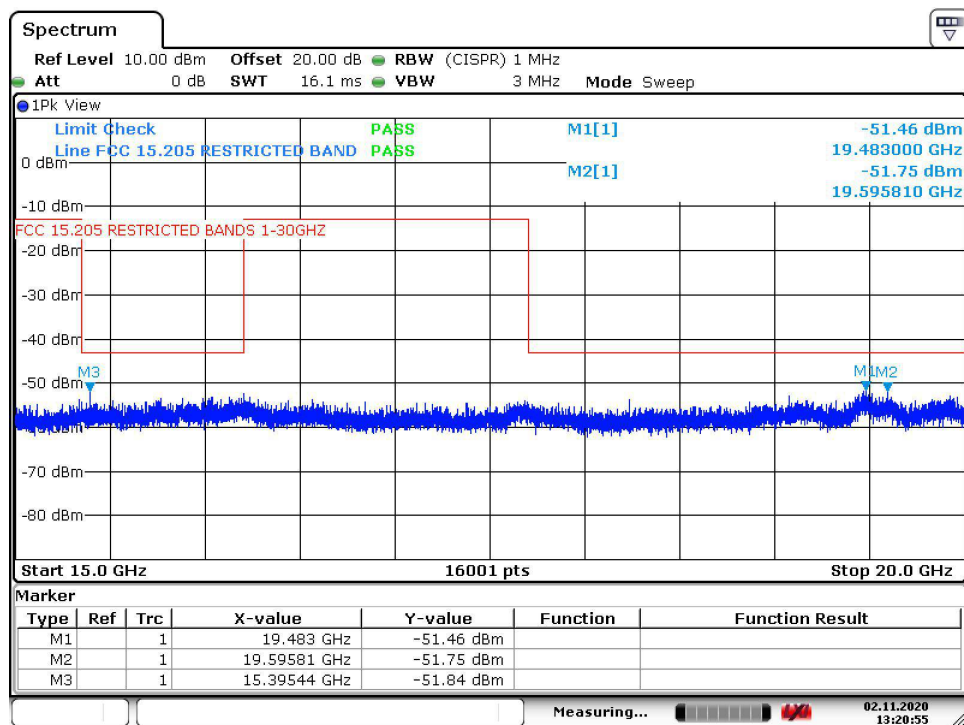
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 15000 MHz to 20000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:20:55

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

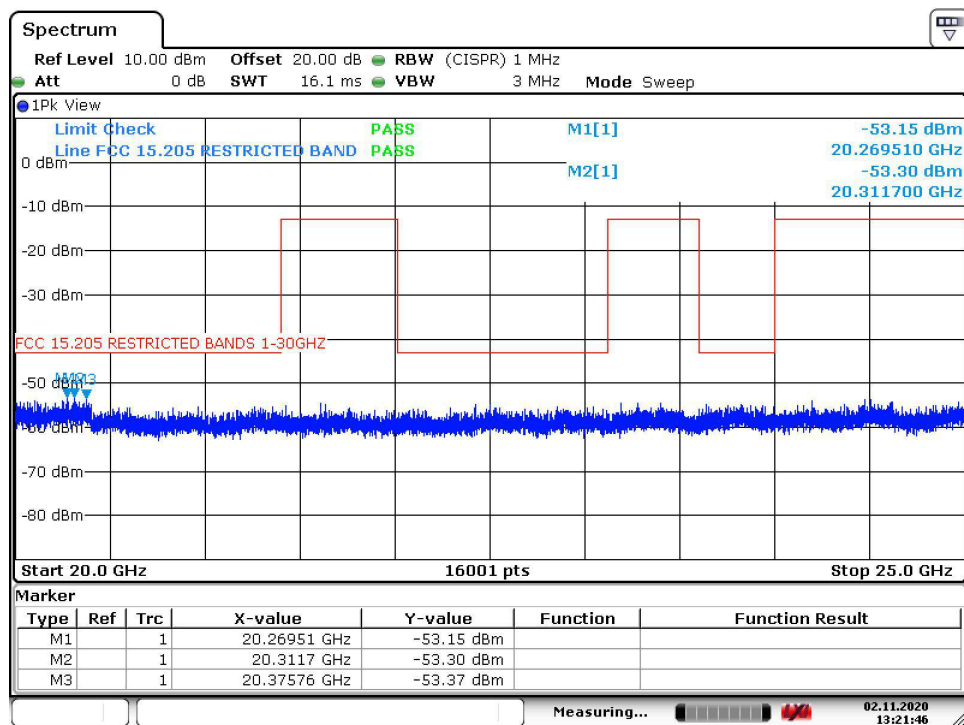
Mid Channel: 2440 MHz

Data Rate: 1Mb/s

Frequency Range: 20000 MHz to 25000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 13:21:46

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

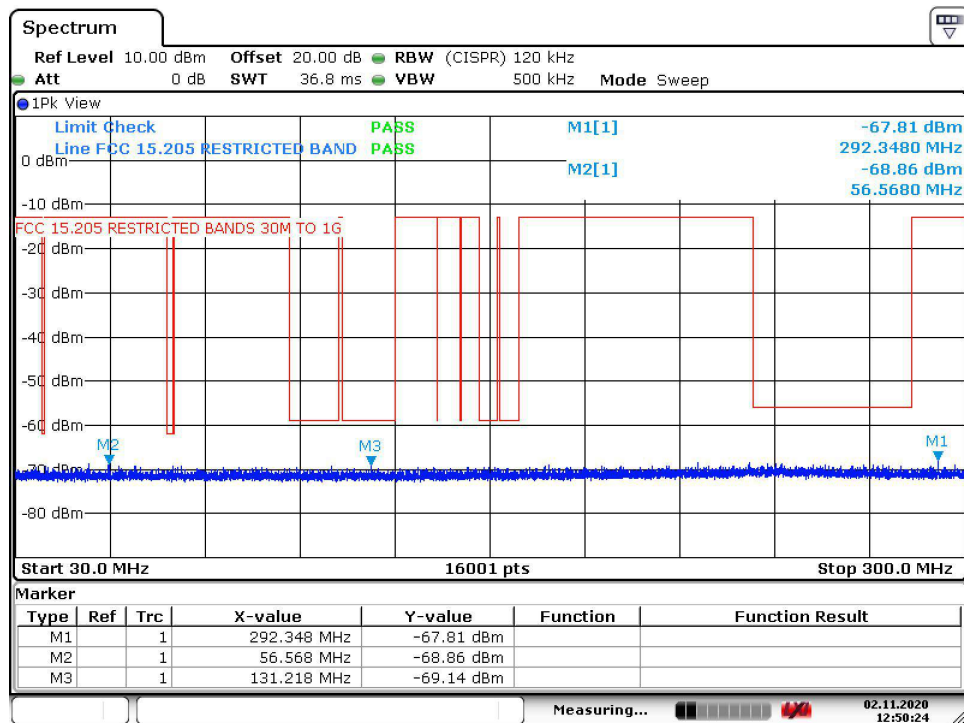
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 30 MHz to 300 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:50:24

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

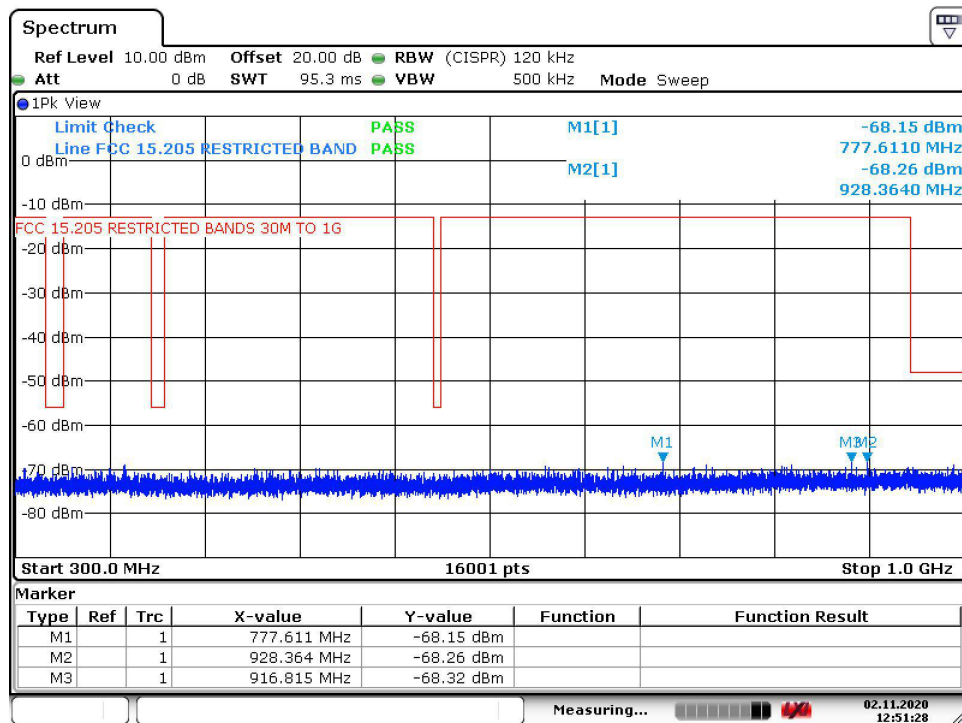
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 300 MHz to 1000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:51:28

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

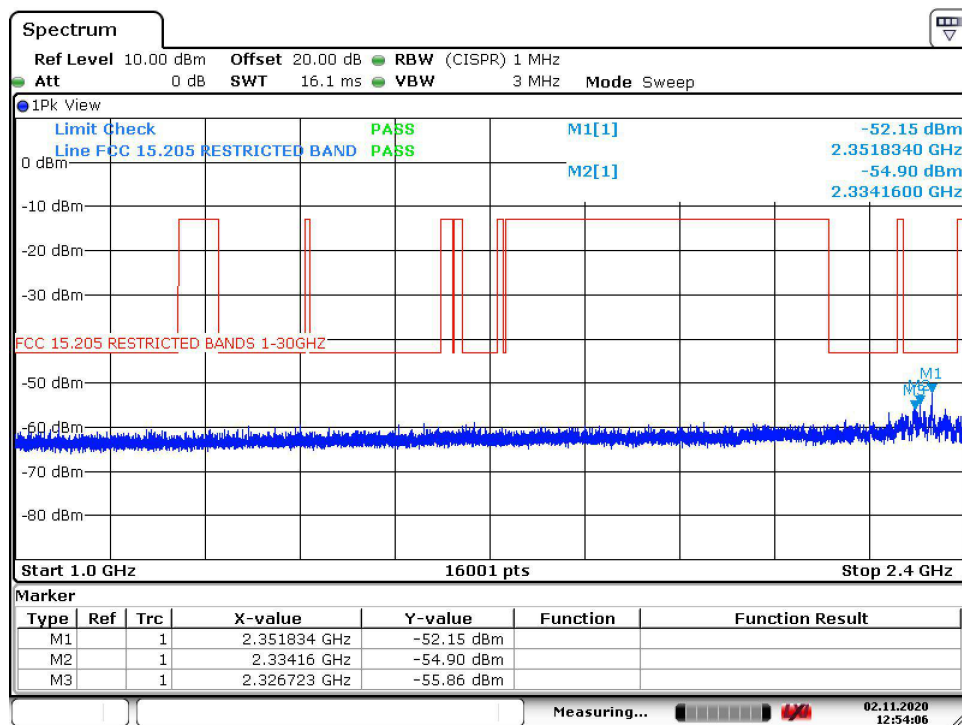
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 1000 MHz to 2400 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:54:06

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

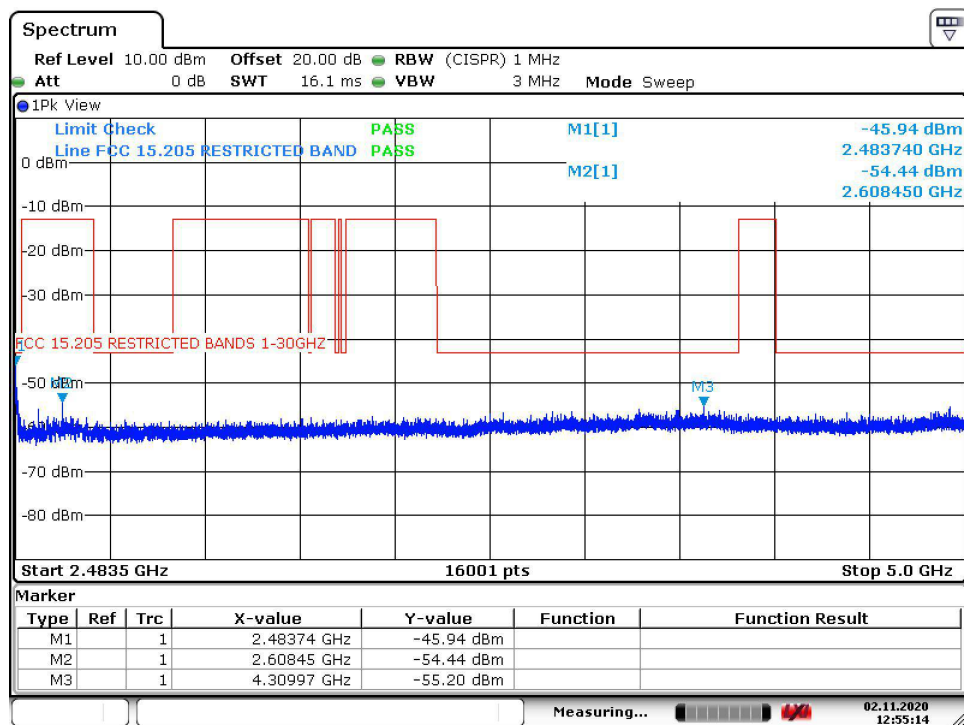
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 2483.5 MHz to 5000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:55:14

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

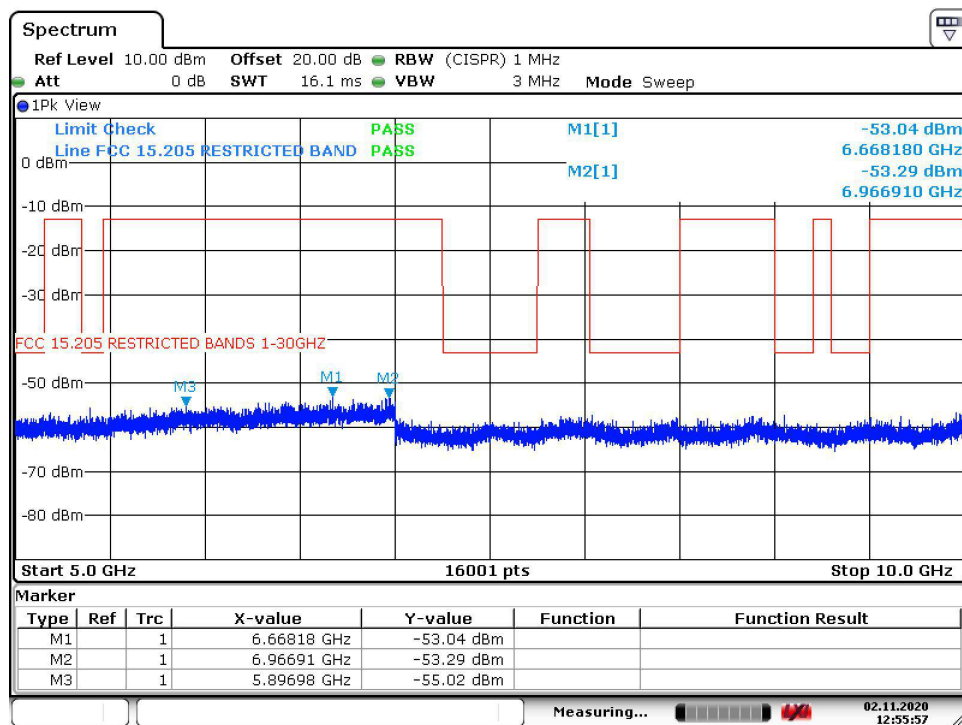
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 5000 MHz to 10000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:55:57

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

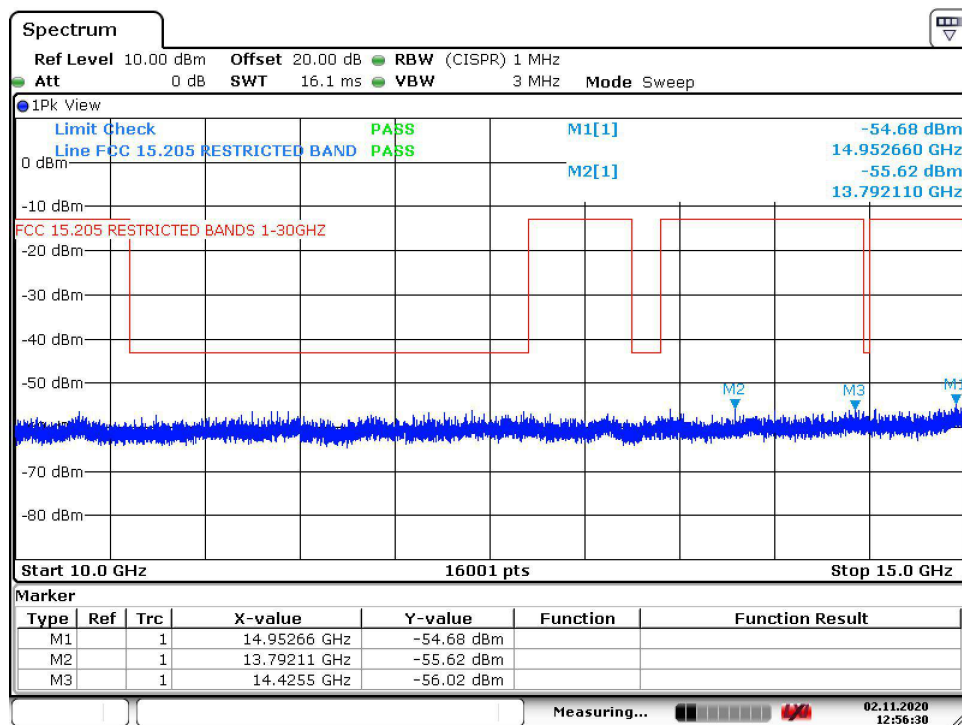
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 10000 MHz to 15000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:56:31

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

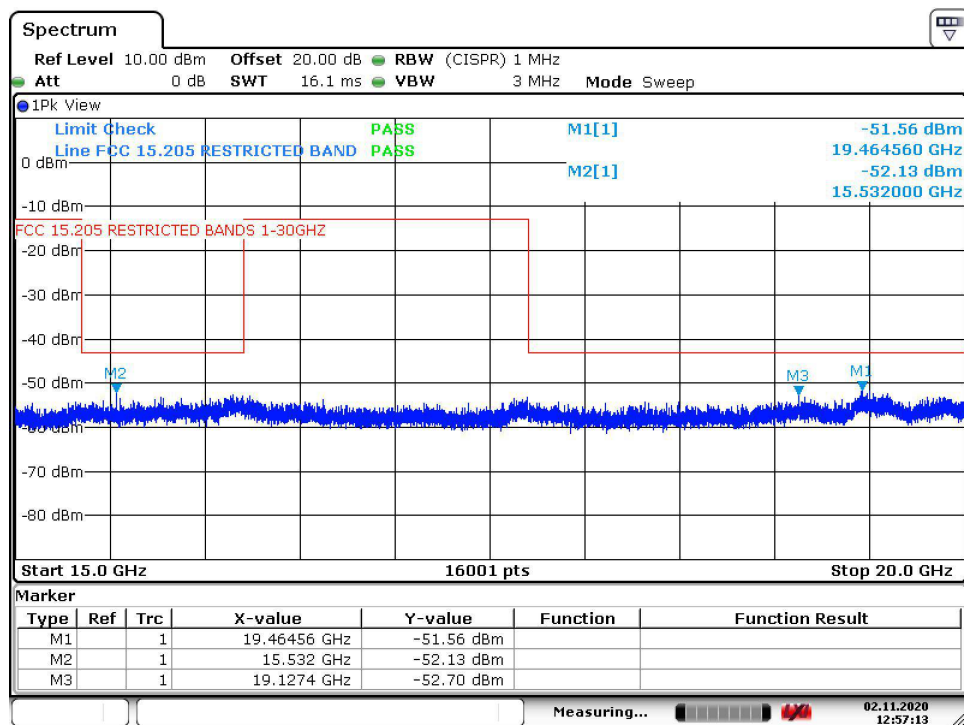
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 15000 MHz to 20000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:57:13

Client: Icon Health & Fitness

Date: 2 Nov 2020

DNB Job: 16043

EUT: DTS Transmitter

Model No: SBACCEL

Requirement: Emissions Below Restricted Band Limits

Tech: CL Payne

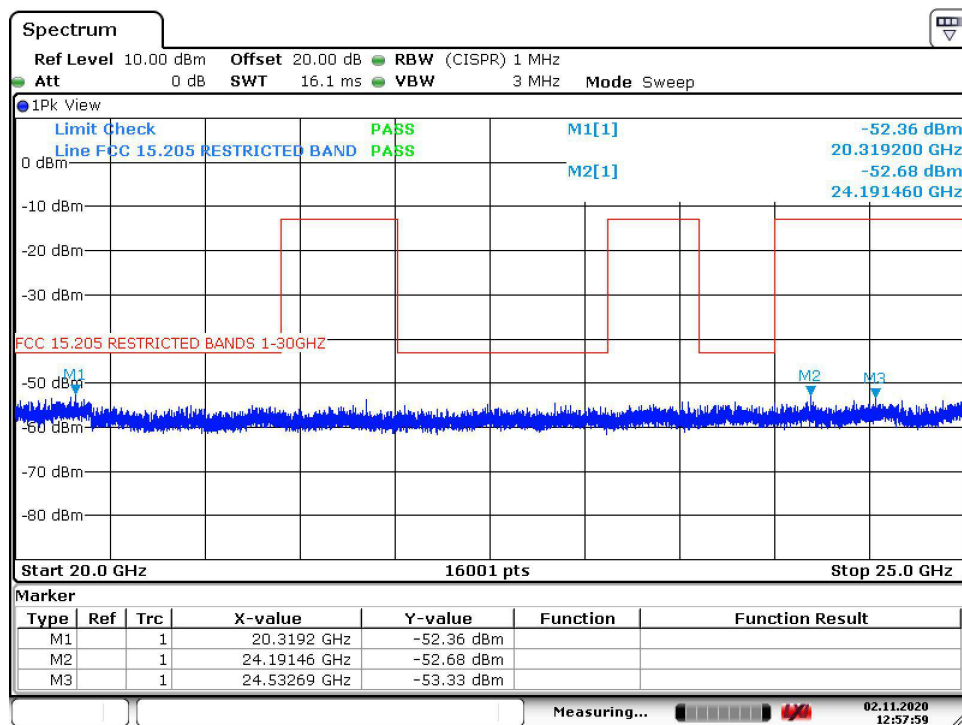
High Channel: 2480 MHz

Data Rate: 1Mb/s

Frequency Range: 20000 MHz to 25000 MHz

Result: Pass

Detector Function: Peak



Date: 2.NOV.2020 12:57:59

End of Report UT16043A-001