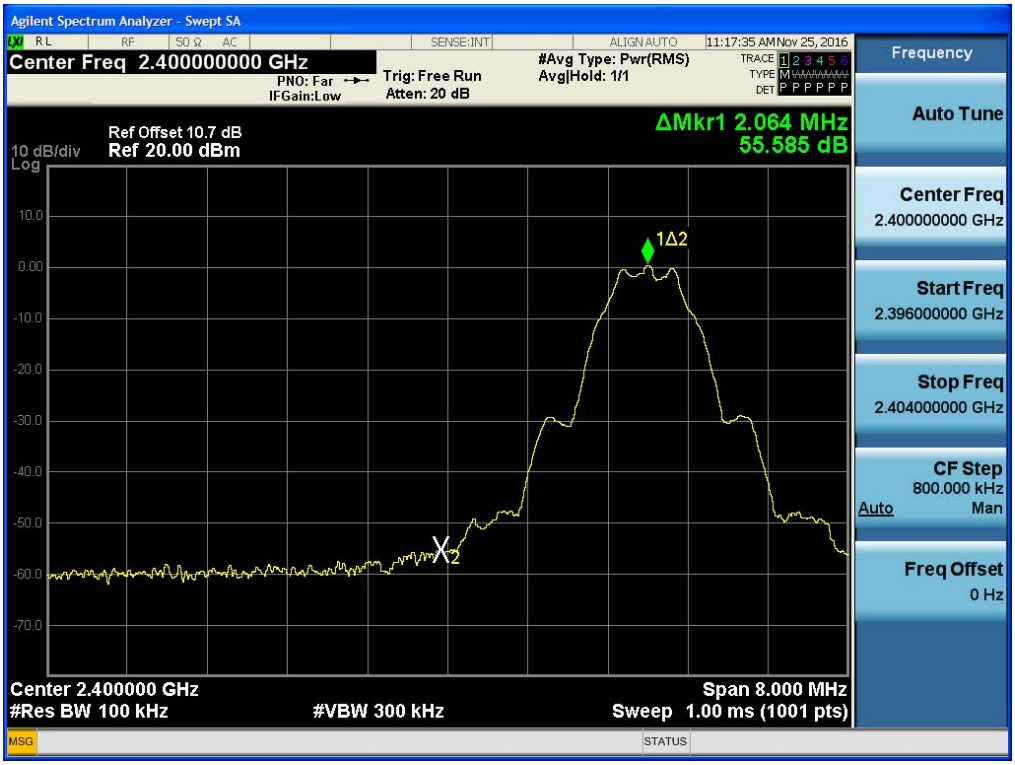
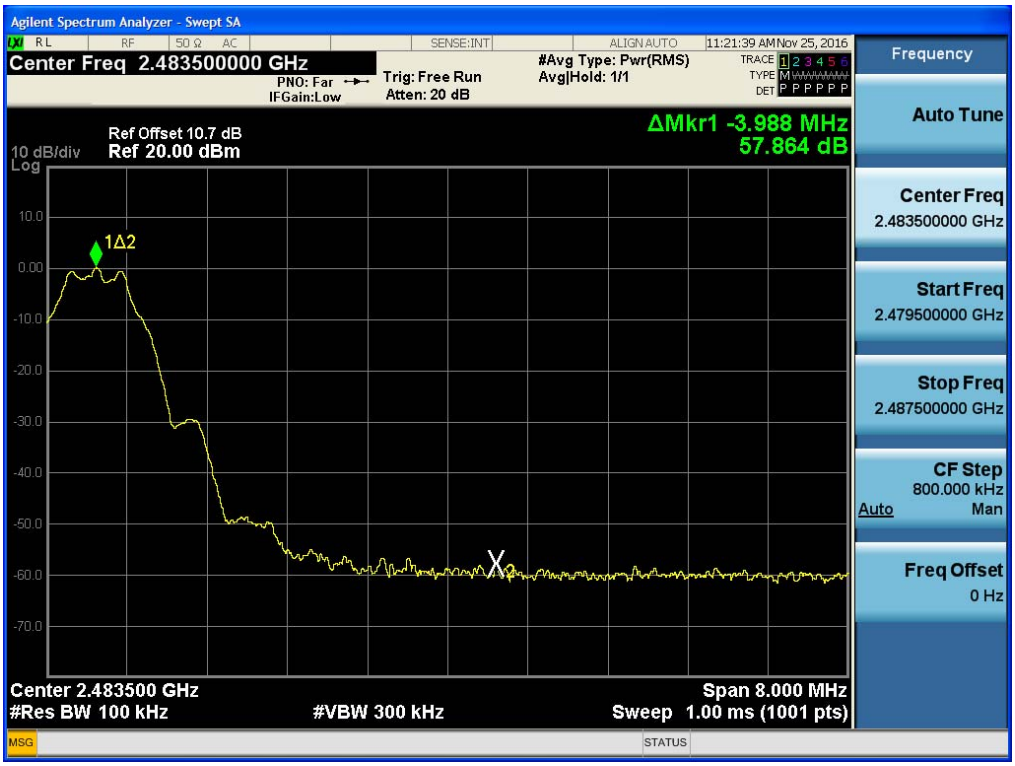
▣ RESULT PLOTS_ Data packet length (Min)

BandEdge (Low-CH 0)

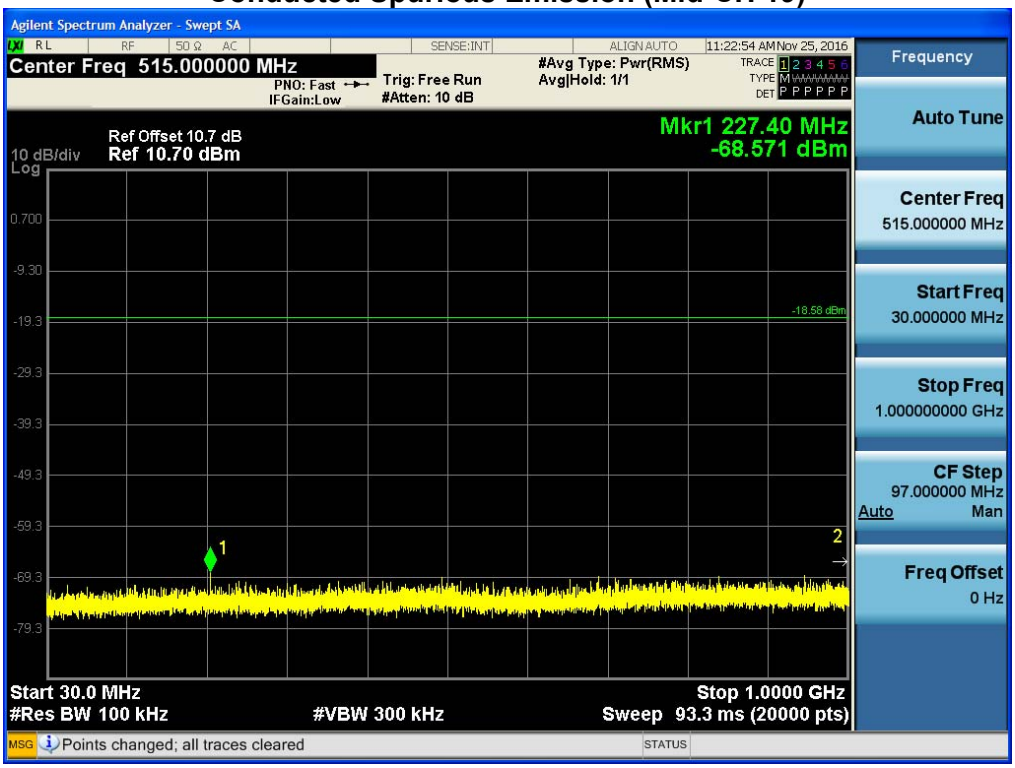


BandEdge (High-CH 39)



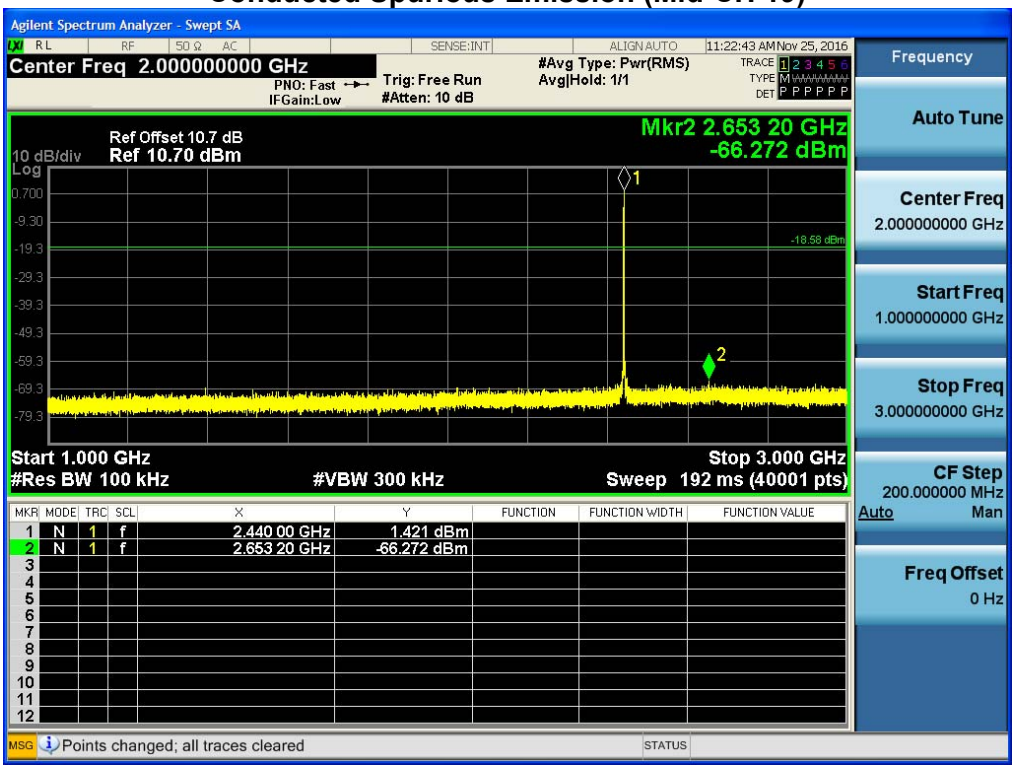
30 MHz ~ 1 GHz

Conducted Spurious Emission (Mid-CH 19)



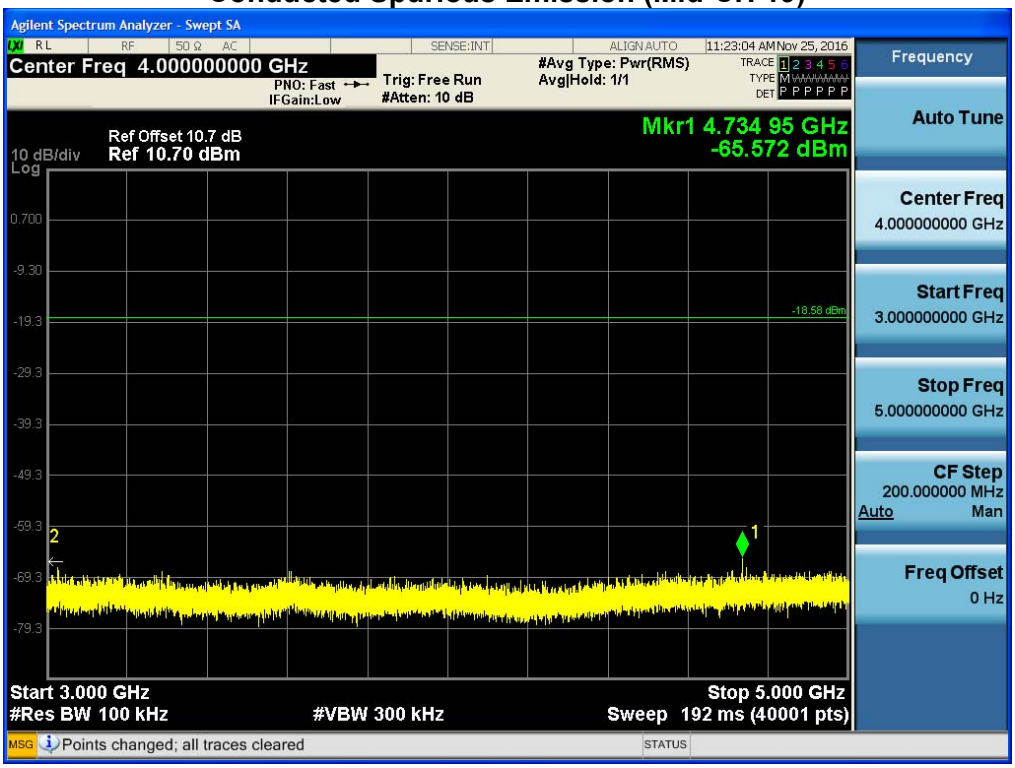
1 GHz ~ 3 GHz

Conducted Spurious Emission (Mid-CH 19)



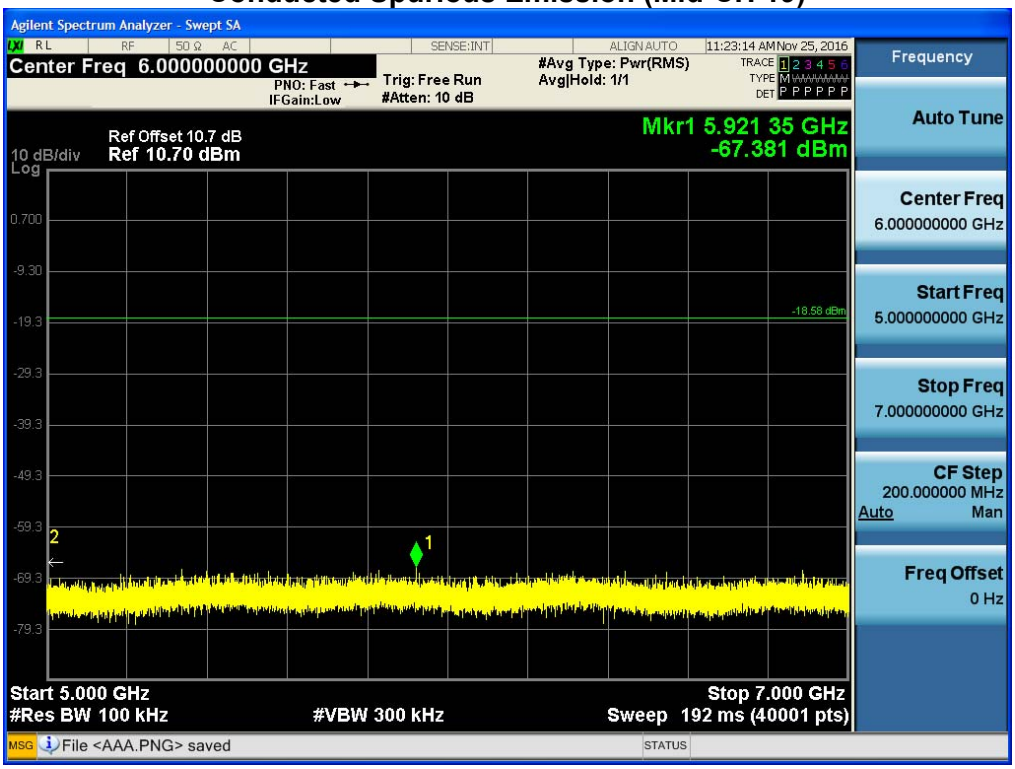
3 GHz ~ 5 GHz

Conducted Spurious Emission (Mid-CH 19)



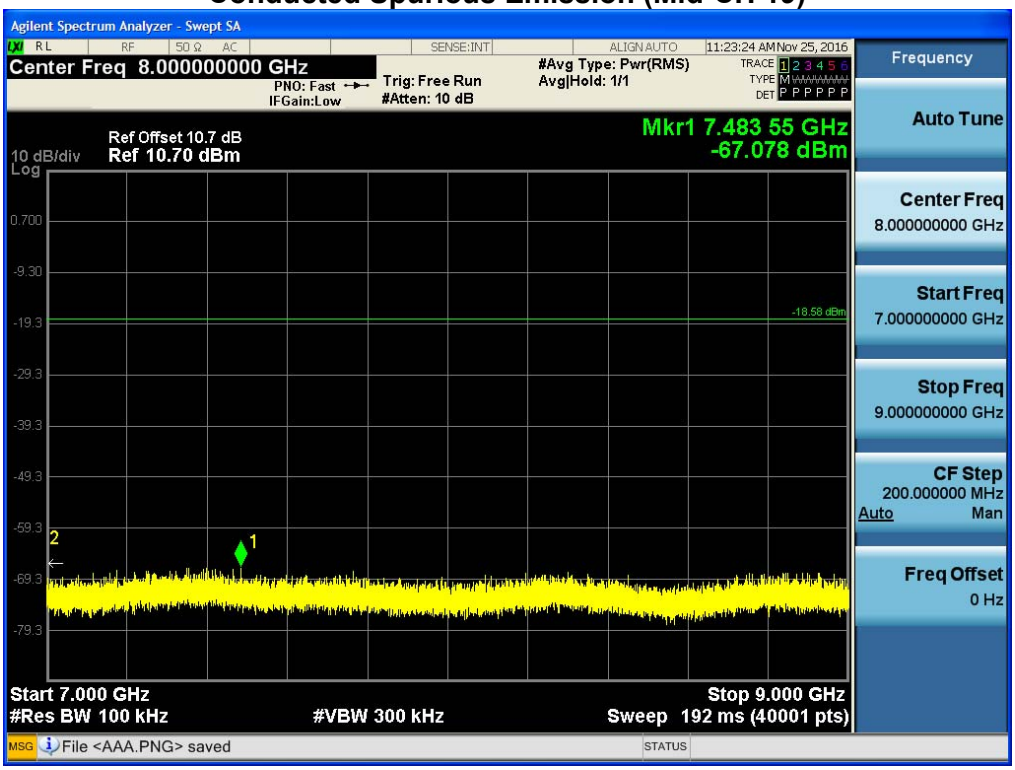
5 GHz ~ 7 GHz

Conducted Spurious Emission (Mid-CH 19)



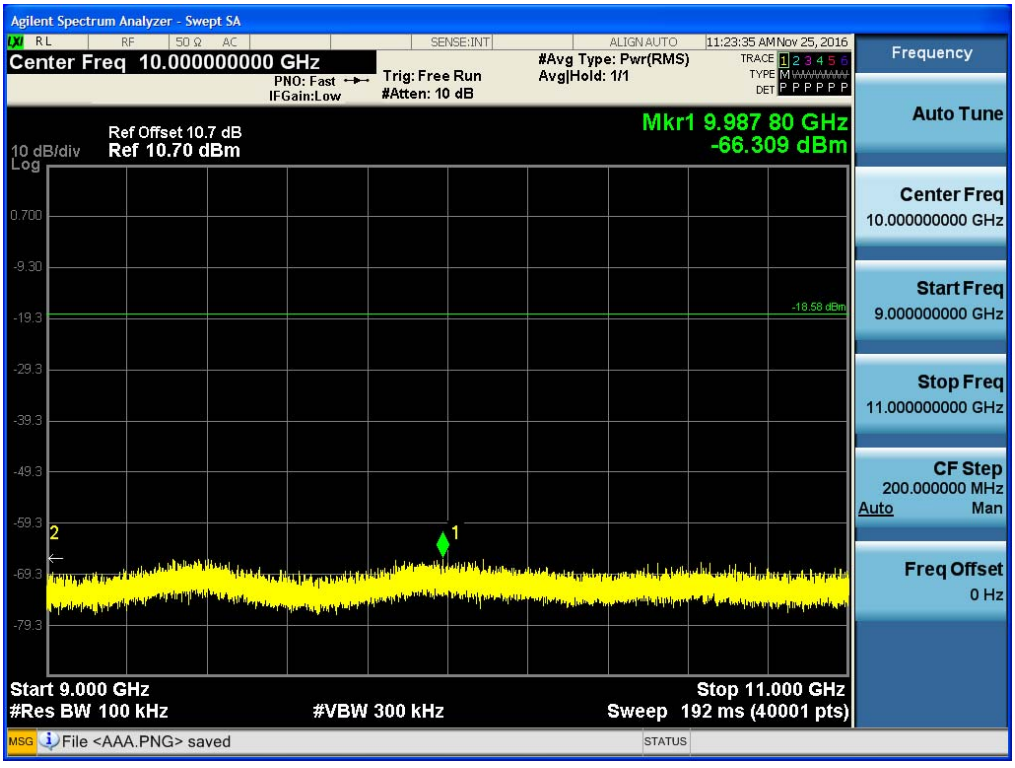
7 GHz ~ 9 GHz

Conducted Spurious Emission (Mid-CH 19)



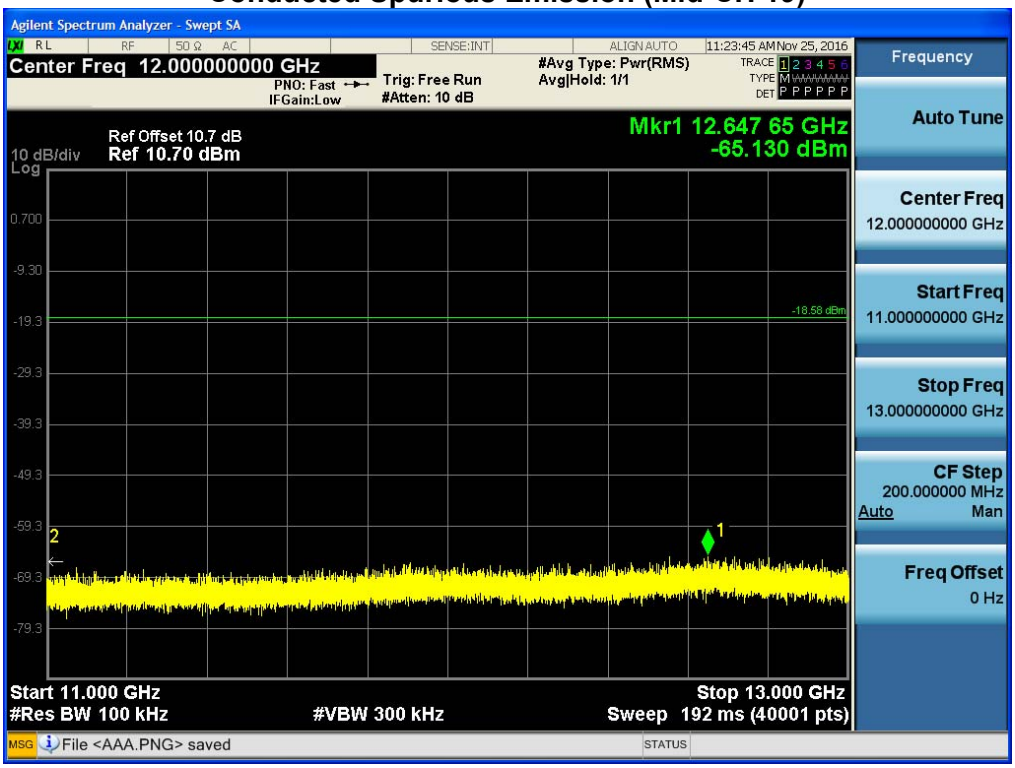
9 GHz ~ 11 GHz

Conducted Spurious Emission (Mid-CH 19)



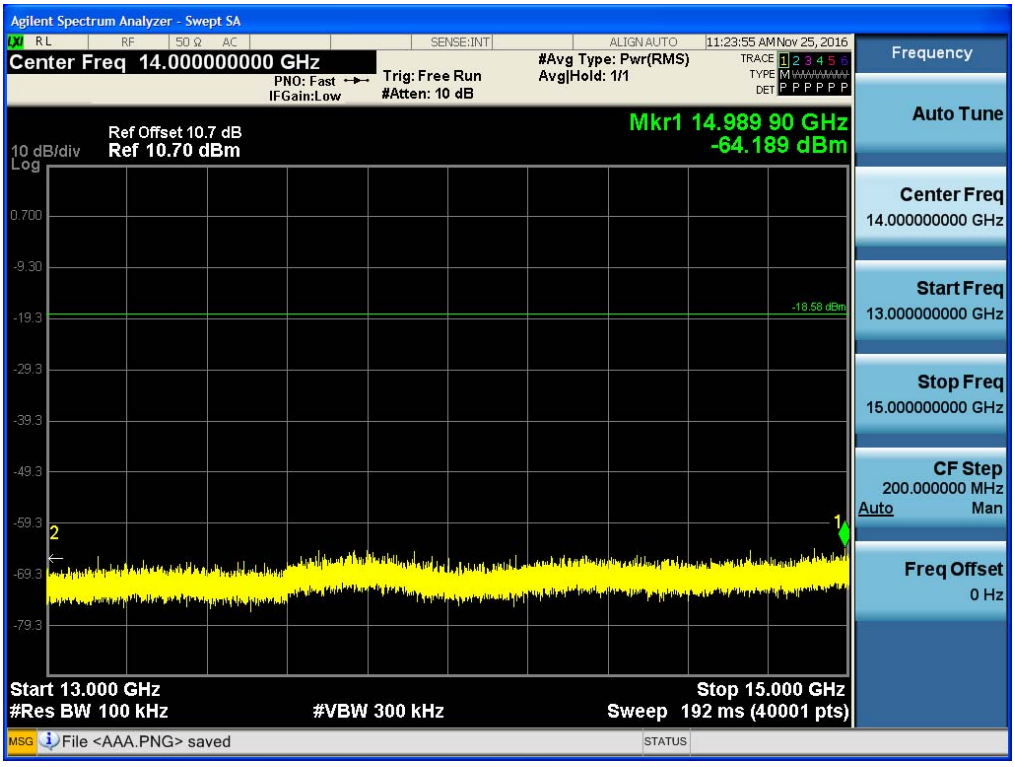
11 GHz ~ 13 GHz

Conducted Spurious Emission (Mid-CH 19)



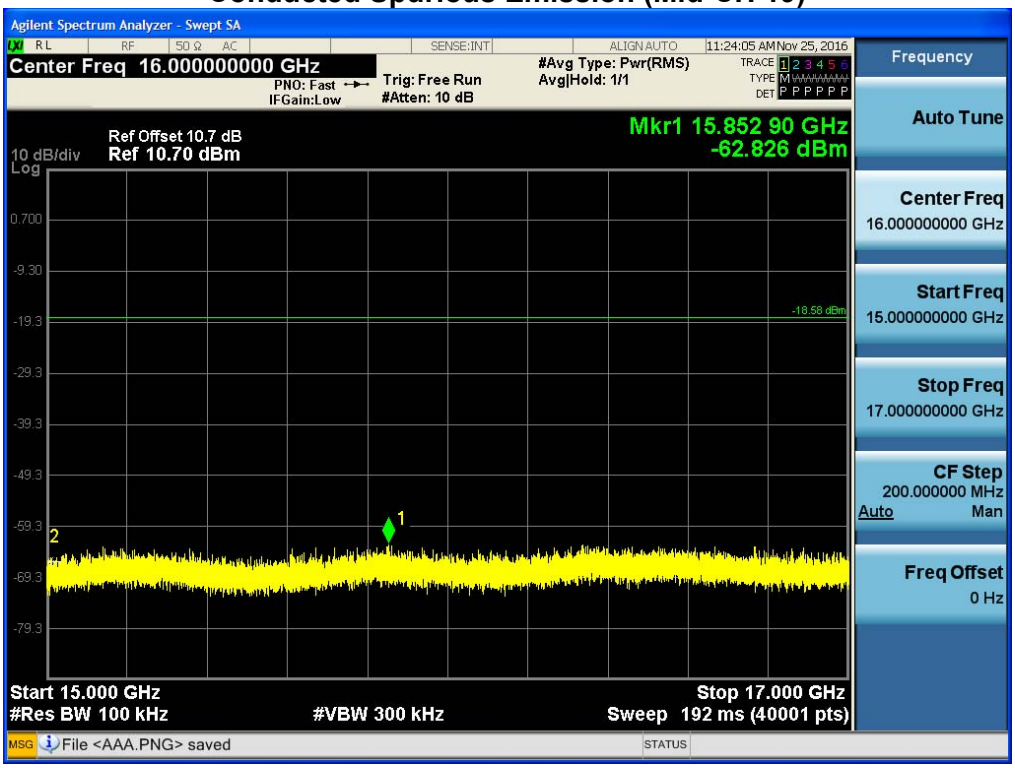
13 GHz ~ 15 GHz

Conducted Spurious Emission (Mid-CH 19)



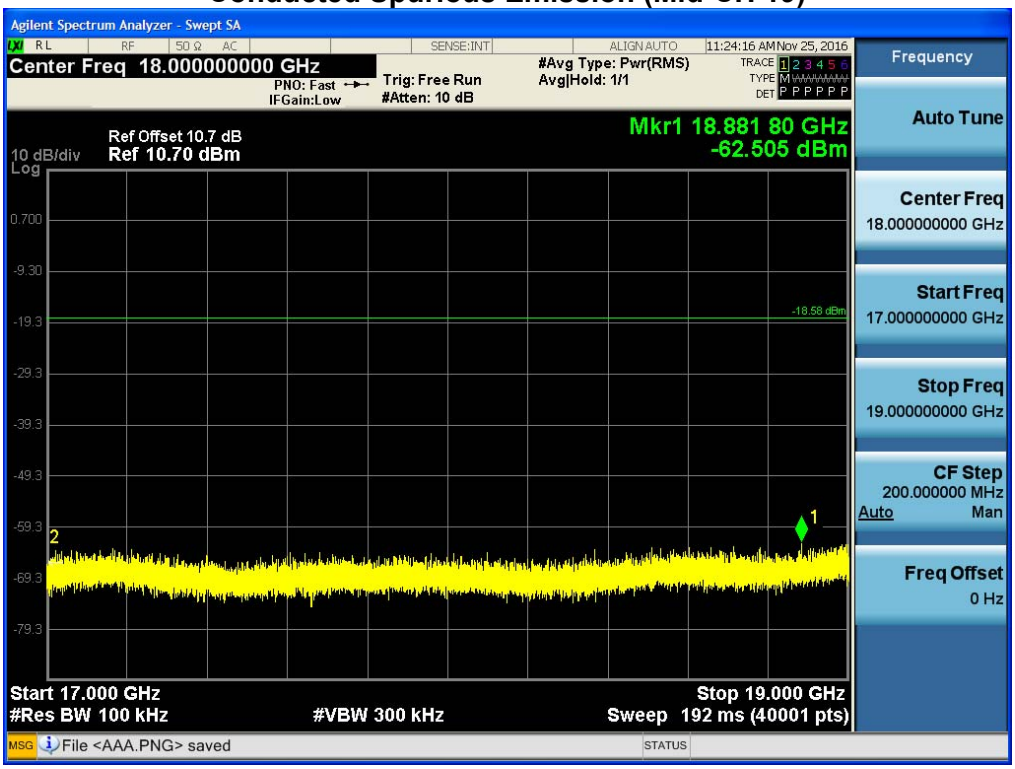
15 GHz ~ 17 GHz

Conducted Spurious Emission (Mid-CH 19)



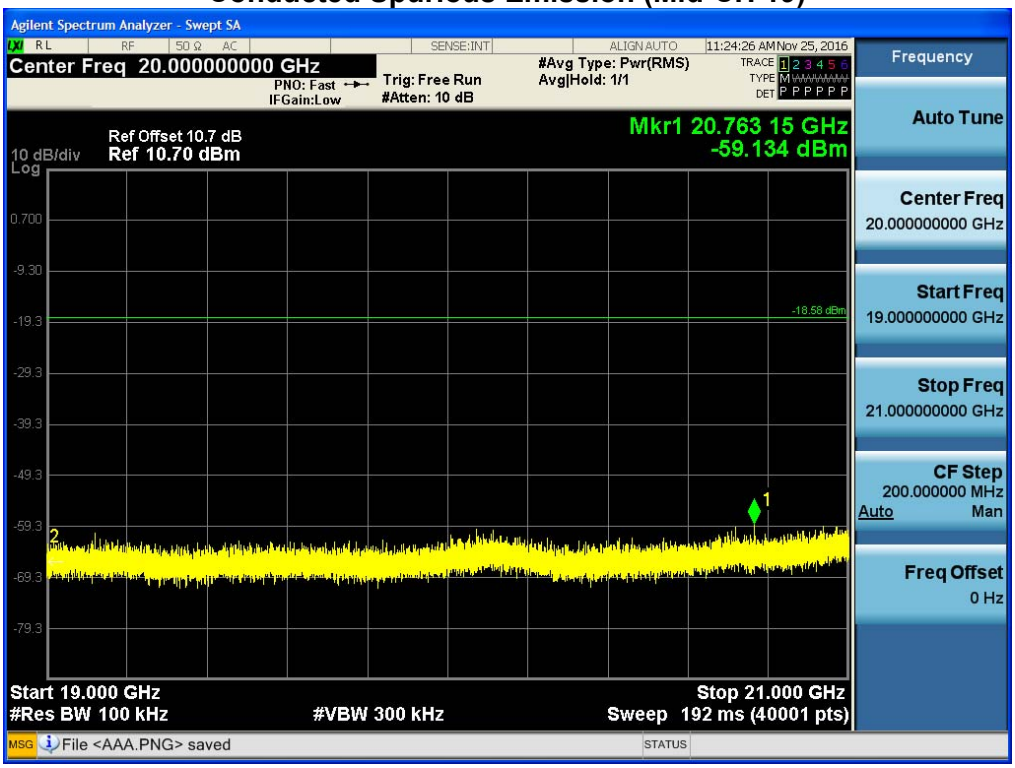
17 GHz ~ 19 GHz

Conducted Spurious Emission (Mid-CH 19)



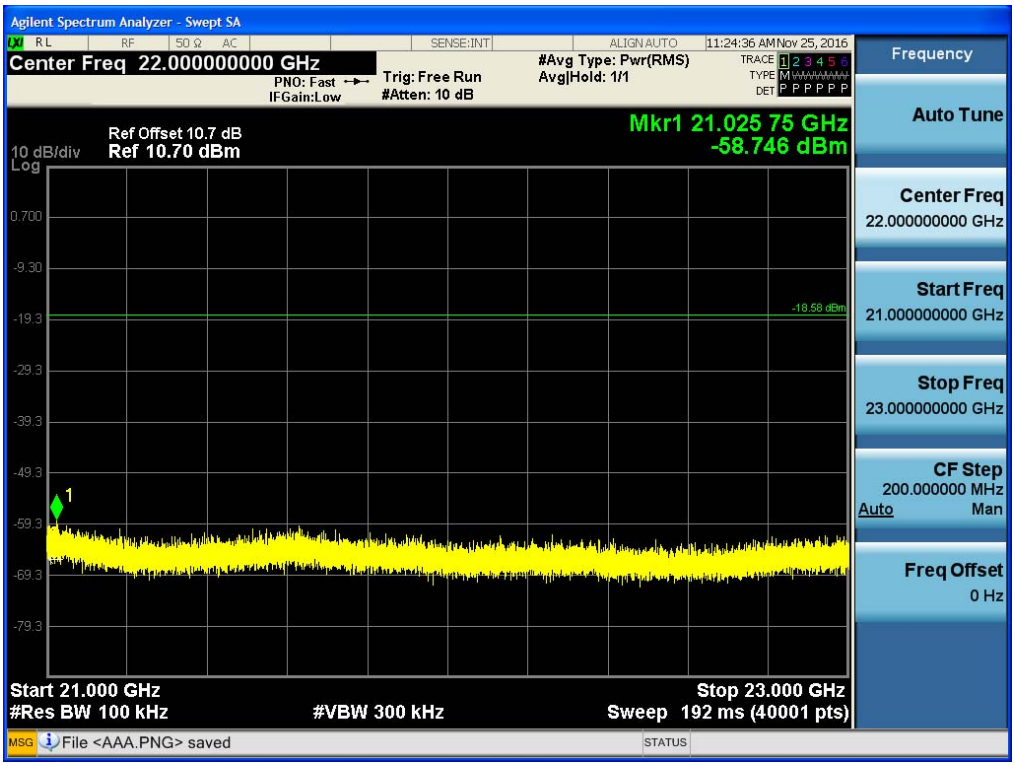
19 GHz ~ 21 GHz

Conducted Spurious Emission (Mid-CH 19)



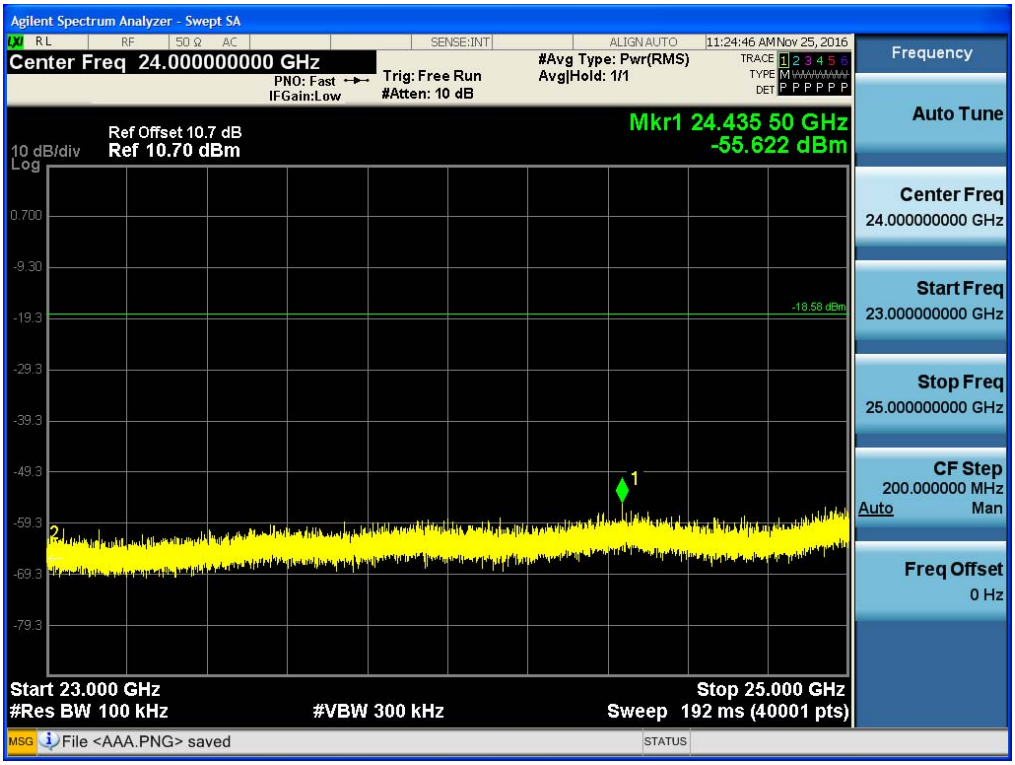
21 GHz ~ 23 GHz

Conducted Spurious Emission (Mid-CH 19)



23 GHz ~ 25 GHz

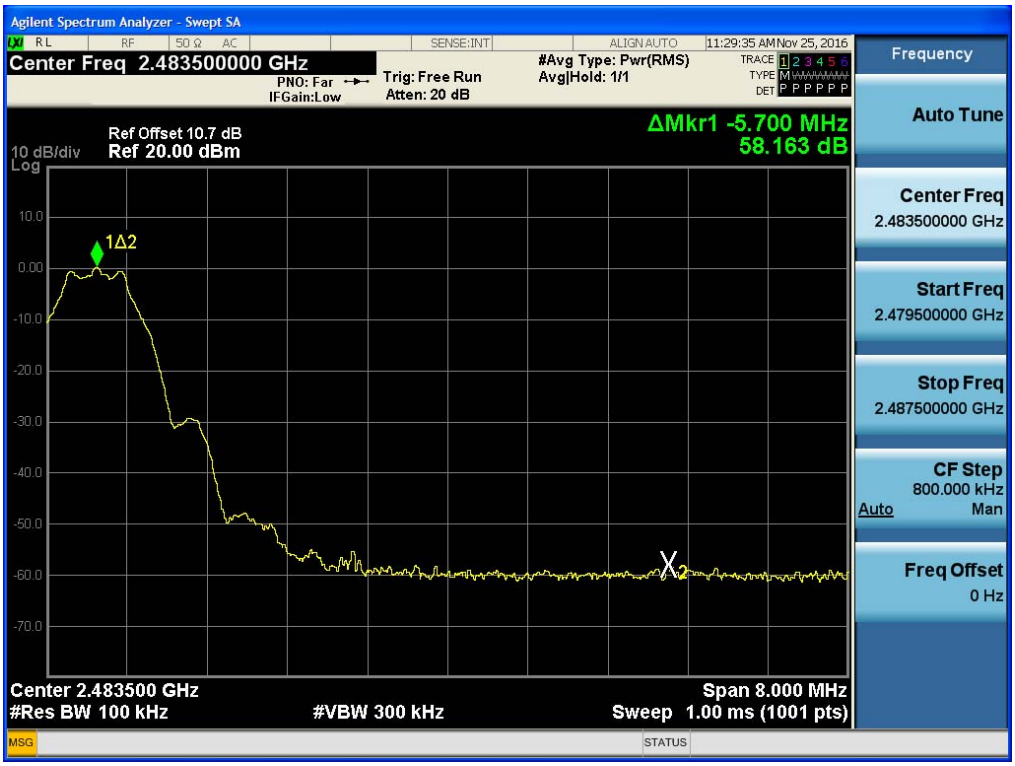
Conducted Spurious Emission (Mid-CH 19)



▣ RESULT PLOTS_ Data packet length (Max)

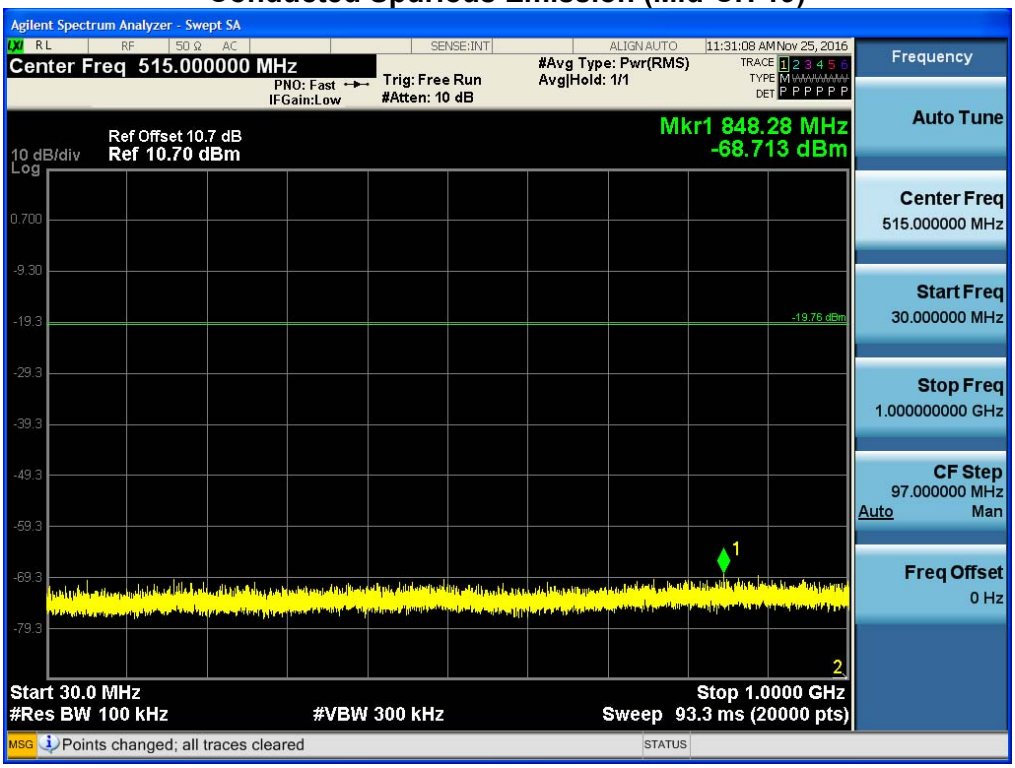
BandEdge (Low-CH 0)

BandEdge (High-CH 39)



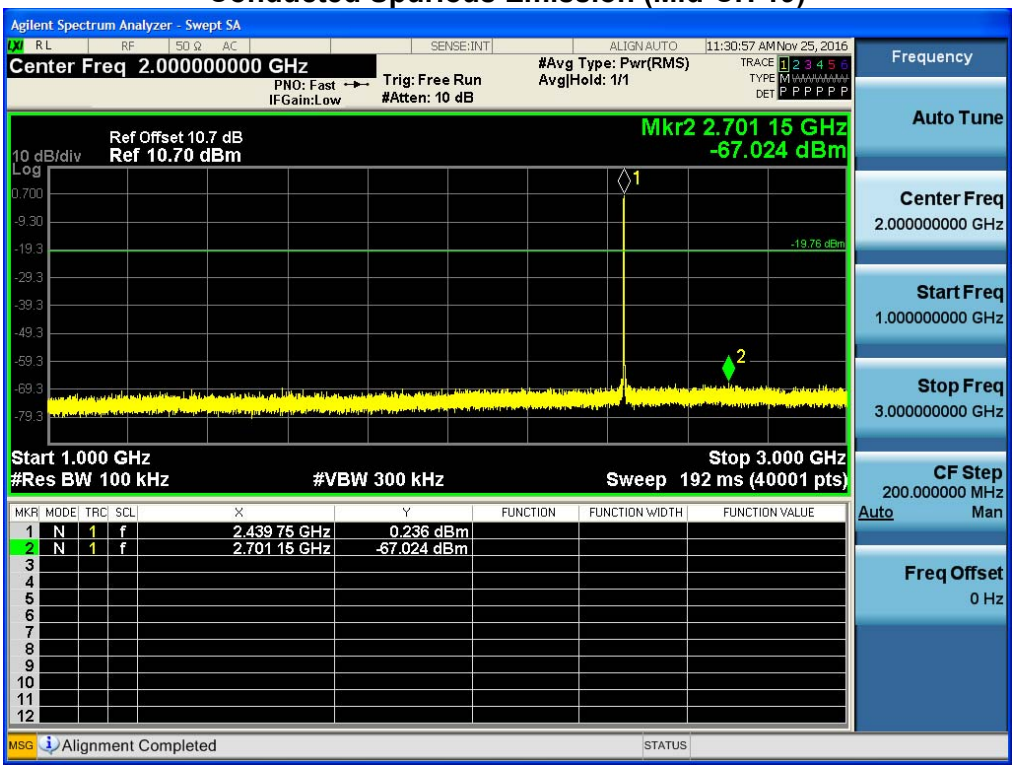
30 MHz ~ 1 GHz

Conducted Spurious Emission (Mid-CH 19)



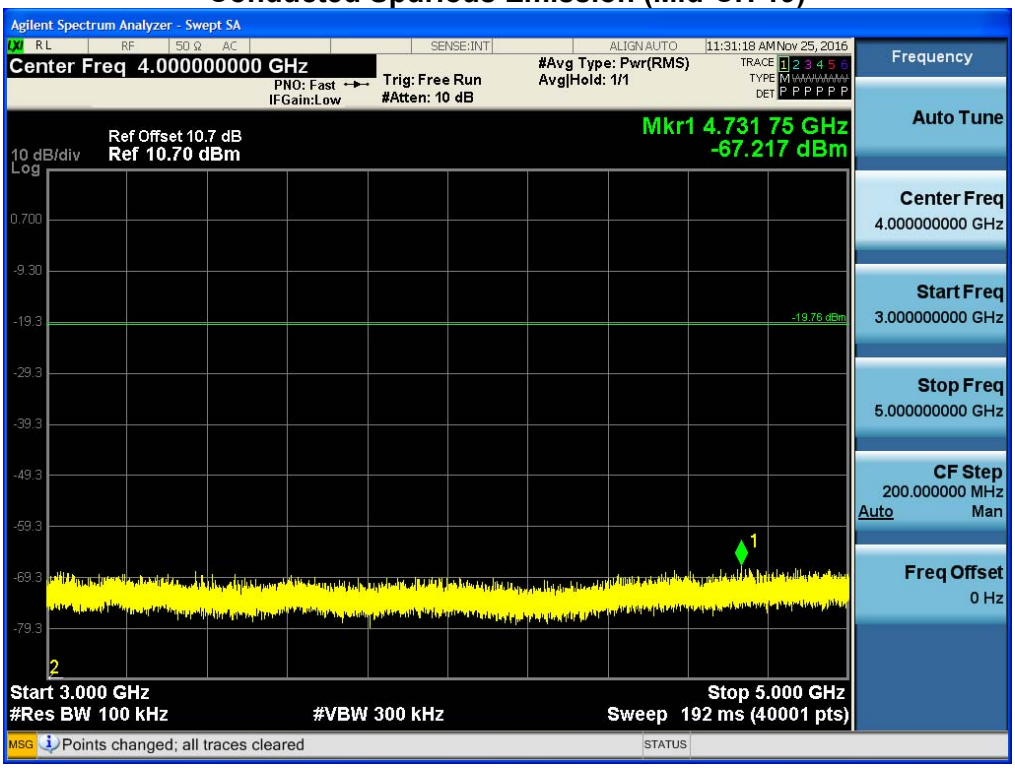
1 GHz ~ 3 GHz

Conducted Spurious Emission (Mid-CH 19)



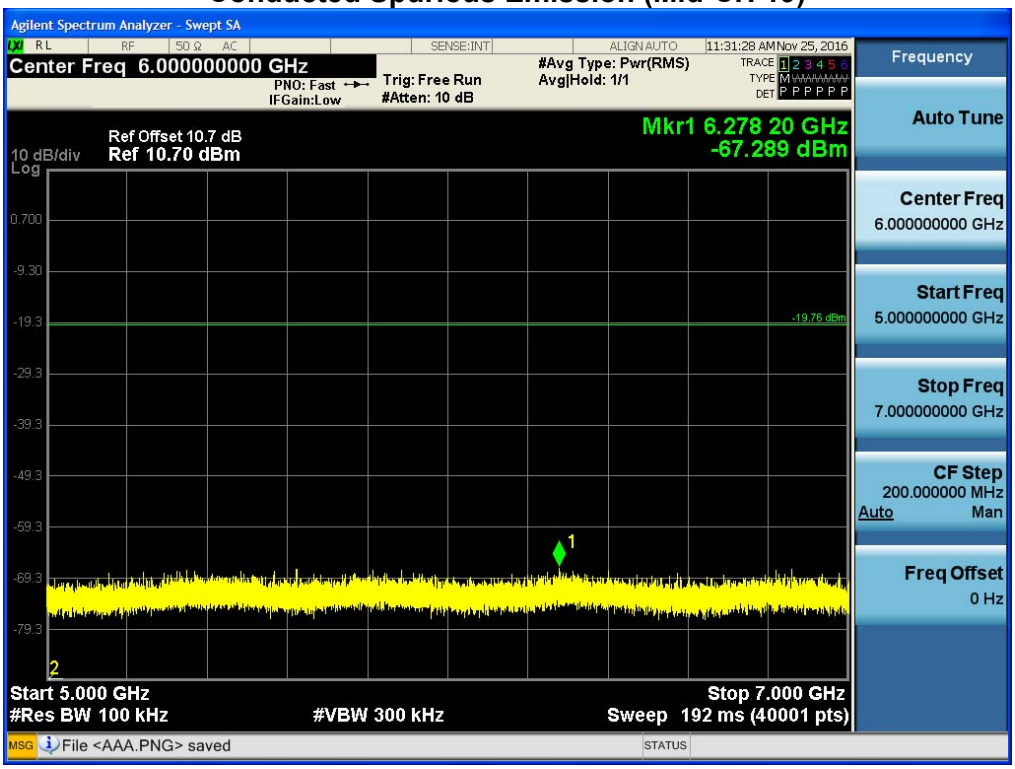
3 GHz ~ 5 GHz

Conducted Spurious Emission (Mid-CH 19)



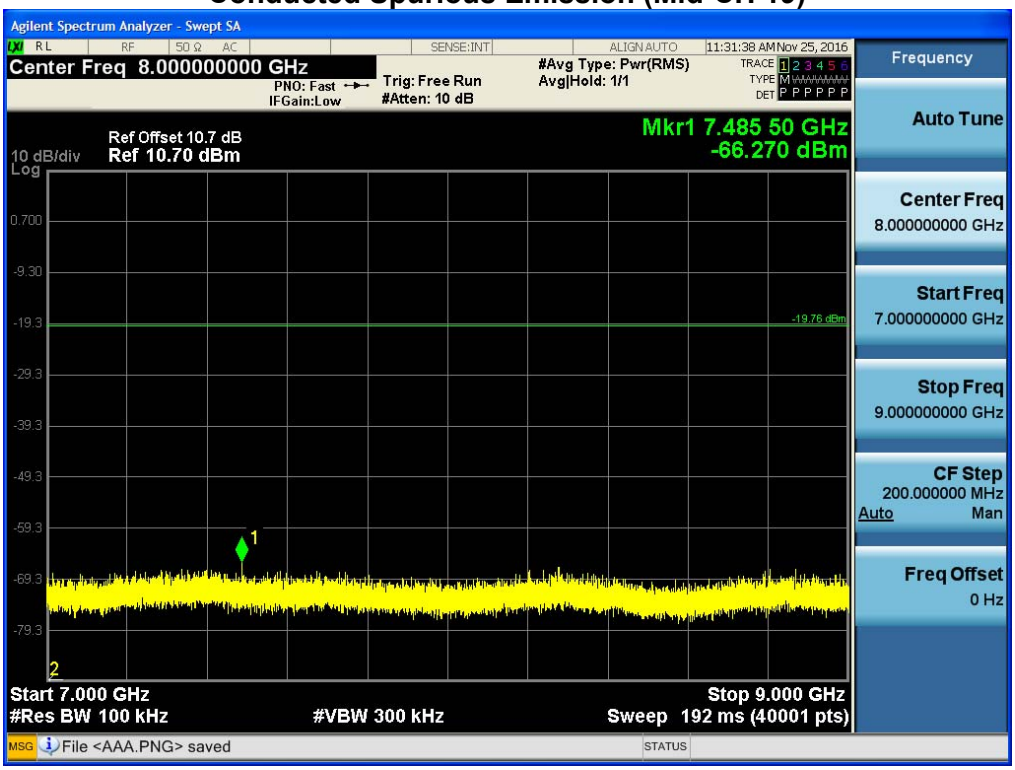
5 GHz ~ 7 GHz

Conducted Spurious Emission (Mid-CH 19)



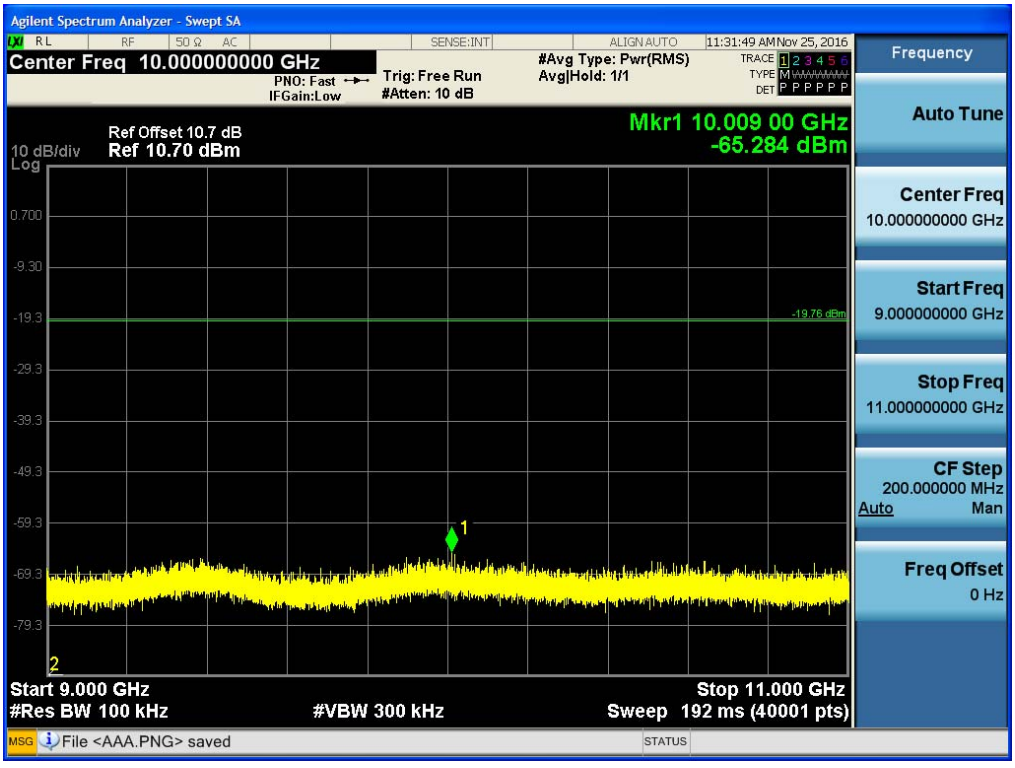
7 GHz ~ 9 GHz

Conducted Spurious Emission (Mid-CH 19)



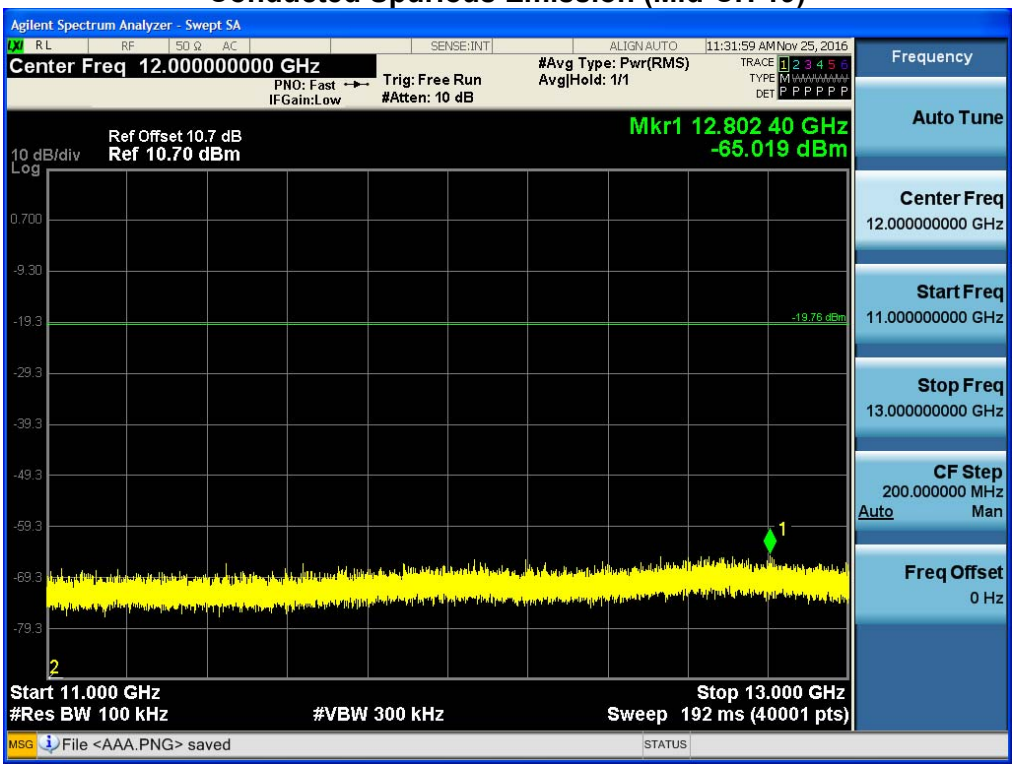
9 GHz ~ 11 GHz

Conducted Spurious Emission (Mid-CH 19)



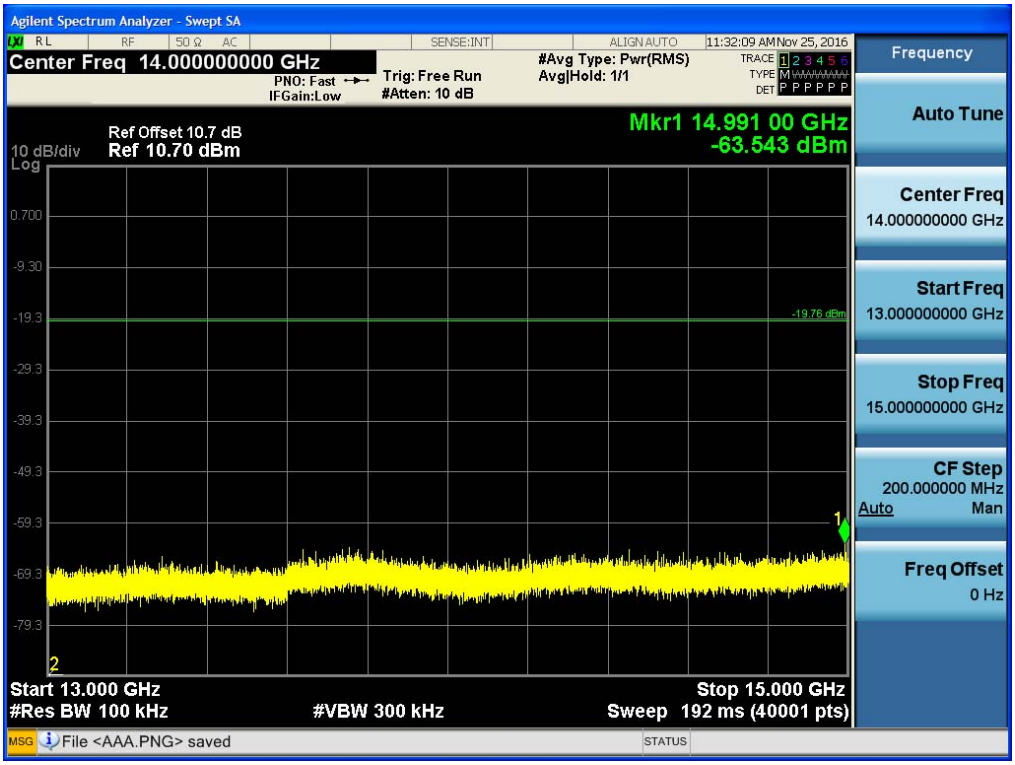
11 GHz ~ 13 GHz

Conducted Spurious Emission (Mid-CH 19)



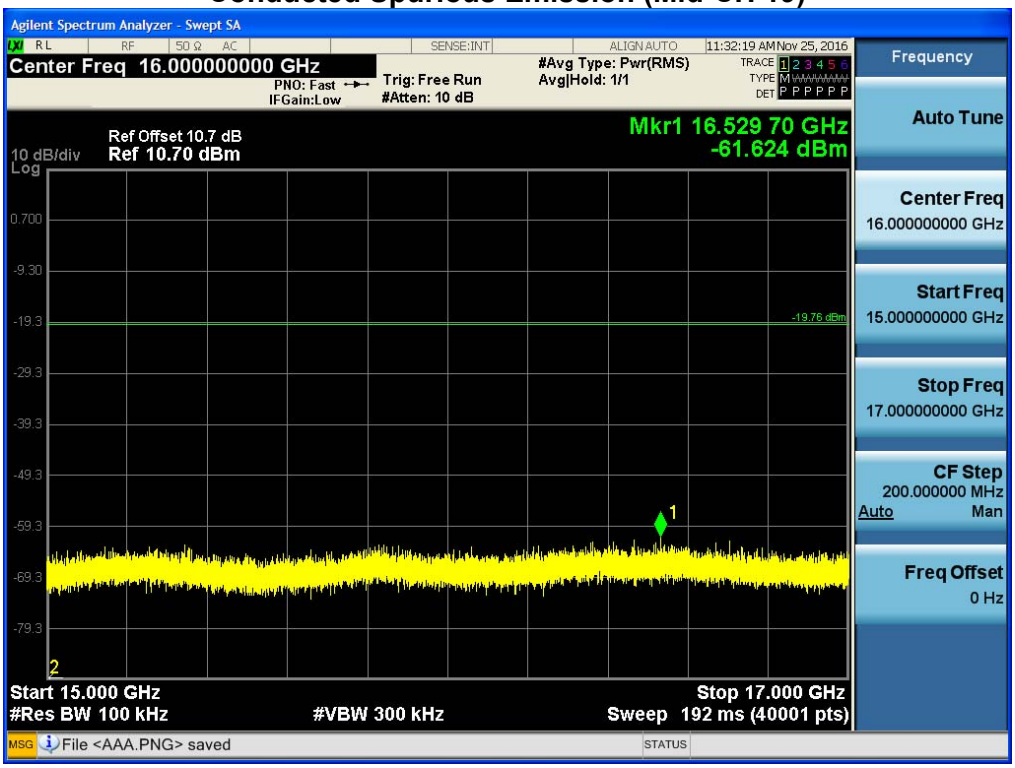
13 GHz ~ 15 GHz

Conducted Spurious Emission (Mid-CH 19)



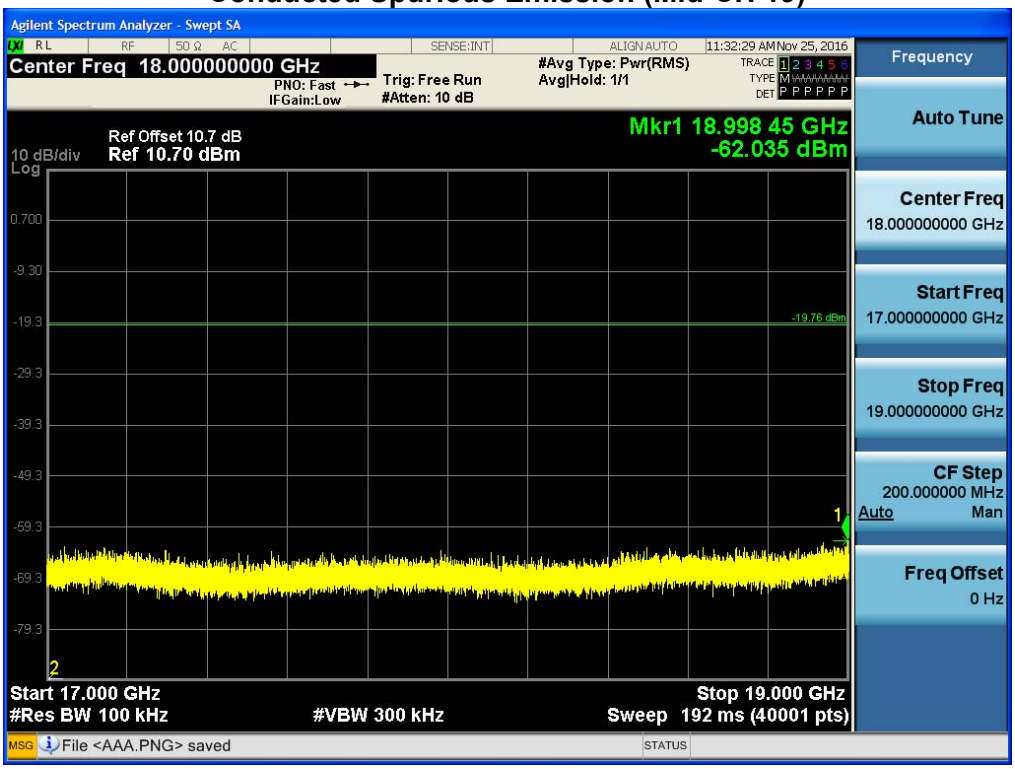
15 GHz ~ 17 GHz

Conducted Spurious Emission (Mid-CH 19)



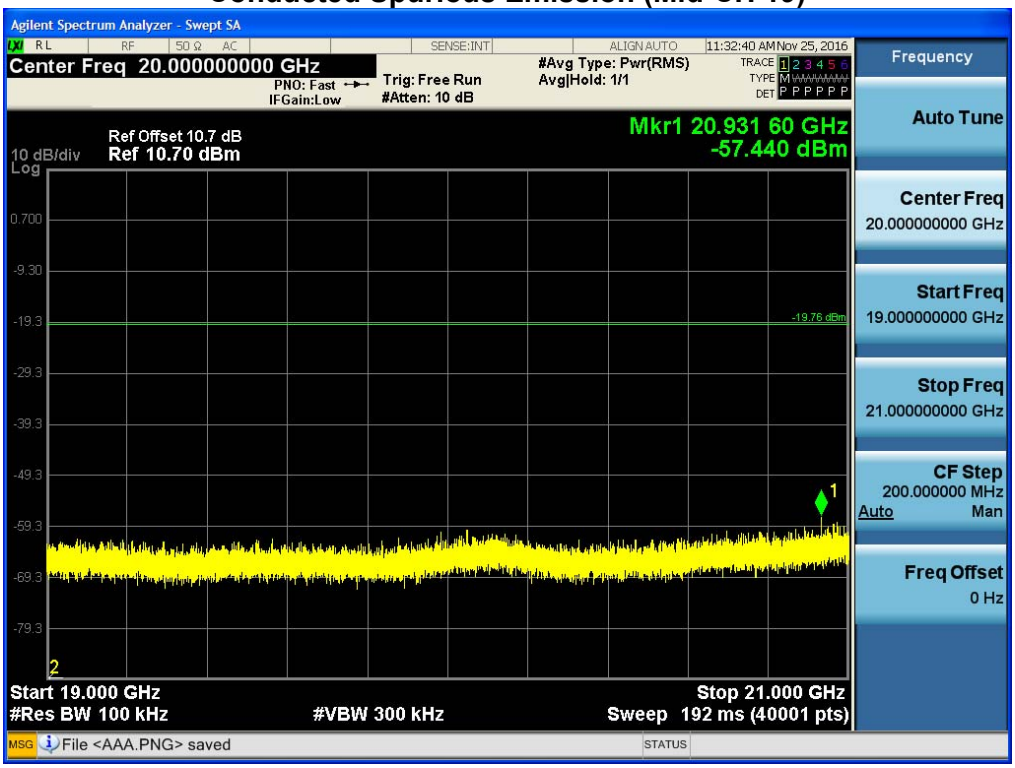
17 GHz ~ 19 GHz

Conducted Spurious Emission (Mid-CH 19)



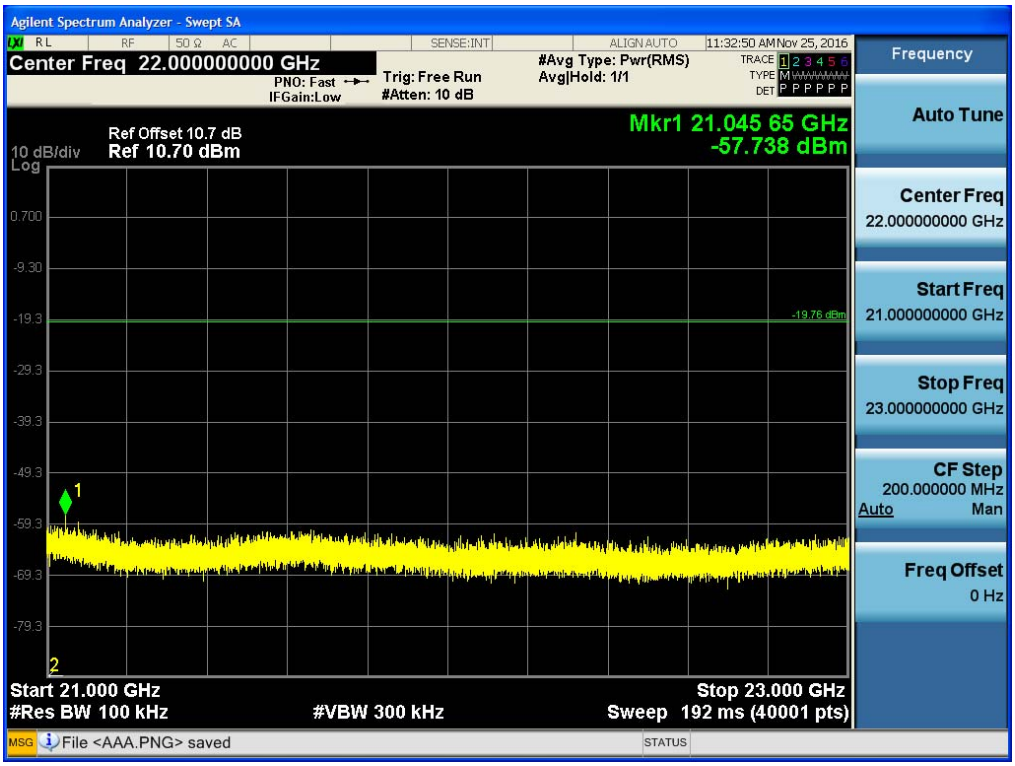
19 GHz ~ 21 GHz

Conducted Spurious Emission (Mid-CH 19)



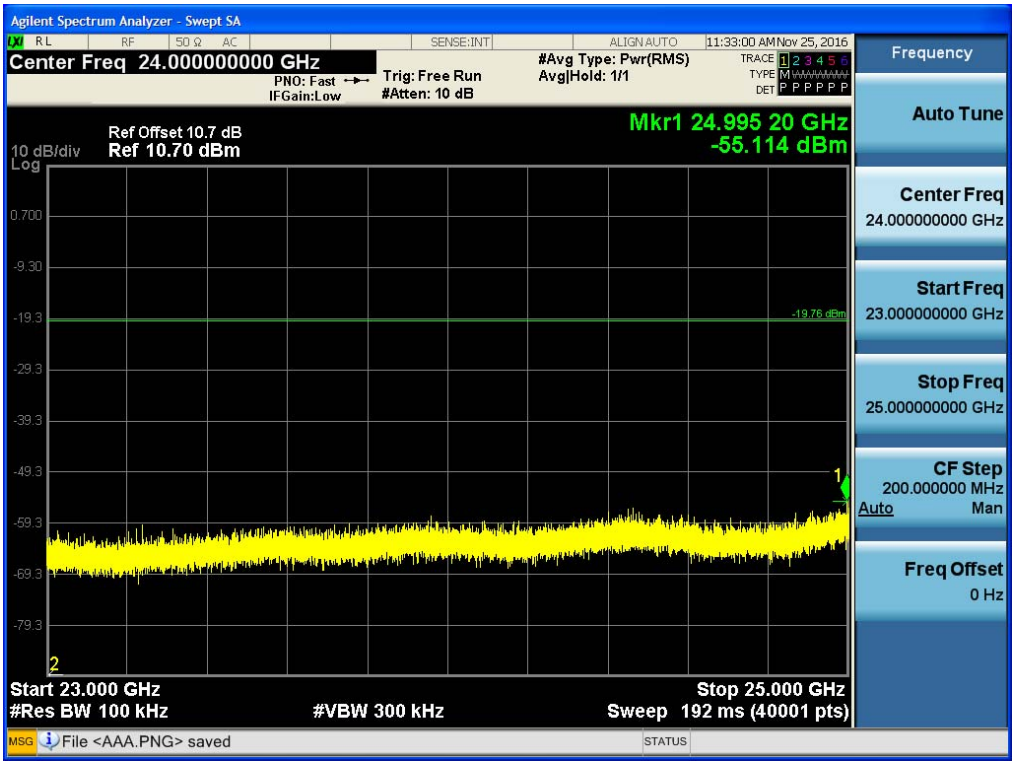
21 GHz ~ 23 GHz

Conducted Spurious Emission (Mid-CH 19)



23 GHz ~ 25 GHz

Conducted Spurious Emission (Mid-CH 19)



9.6 RADIATED MEASUREMENT.

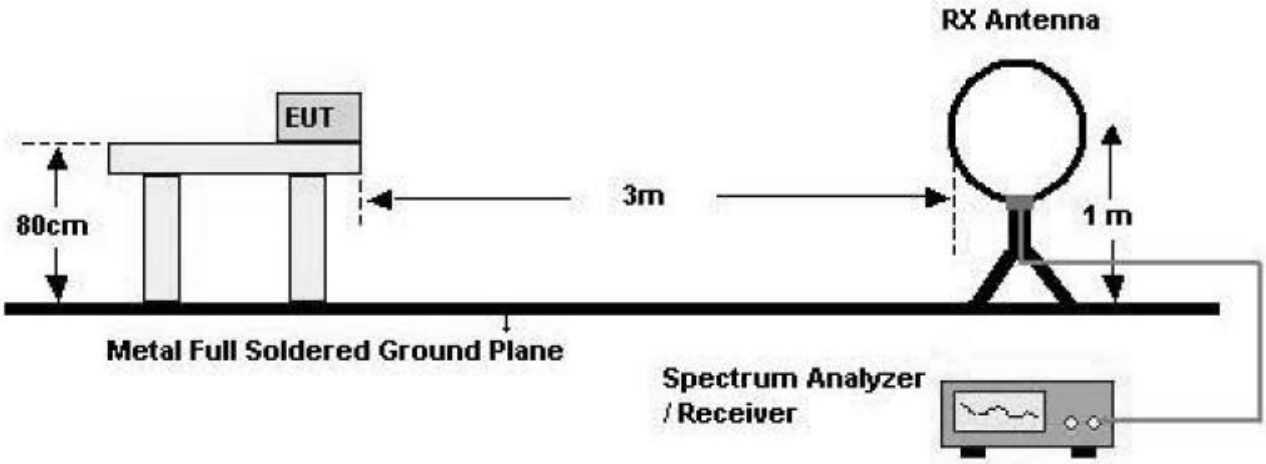
9.6.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209

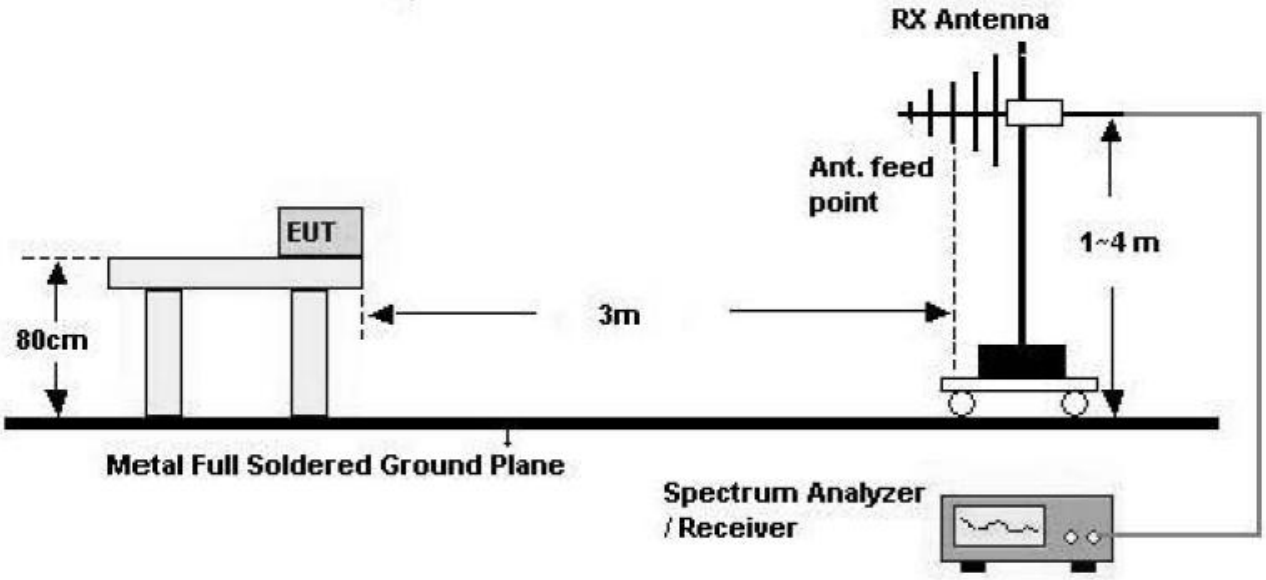
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

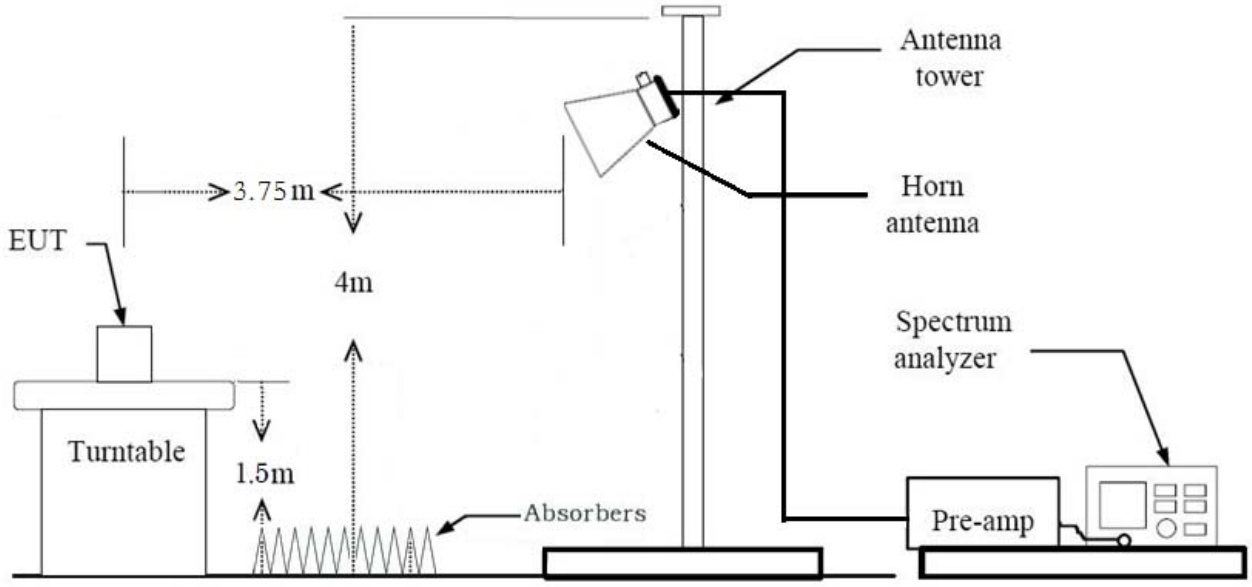
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



TEST PROCEDURE USED

Method 12.1 in KDB 558074 v03r05

Spectrum Setting

- Peak

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

RBW = cf. Table 1.

VBW ≥ 3 x RBW.

Detector = Peak.

Sweep time = auto.

Trace mode = max hold.

Allow sweeps to continue until the trace stabilizes.

(Note that the required measurement time may be longer for low duty cycle applications).

Table 1 —RBW as a function of frequency

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

- Average (duty cycle < 98%, duty cycle variations are less than ±2%)

Set RBW = 1 MHz

Set VBW ≥ 3 x RBW

Detector = RMS.

Averaging type = power (*i.e.*, RMS).

Sweep time = auto.

Trace mode = average (at least 100 traces).

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 percent duty cycle.

Note :

1. We are performed the RSE and radiated band edge using standard radiated method(RMS).
2. According to SVSWR requirement in ANSI 63.4-2014, We performed the radiated test at 3.75 m distance from center of turn table. So, we applied the distance factor(reference distance : 3 m).
3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)

Data packet length (Min)

LE Mode	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
	0.4079	0.6245	0.6531	1.85

Data packet length (Max)

LE Mode	T_{on} (ms)	T_{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
	1.0950	1.8750	0.5840	2.34

TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dBuV/m	dBm/m	dBm	(H/V)	dBuV/m	dBuV/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Operation Mode: CH.0_ Data packet length (Min)

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.-A.G.+D.F. [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
4804	49.26	0.00	-0.61	V	48.65	73.98	25.33	PK
4804	38.00	1.85	-0.61	V	39.24	53.98	14.74	AV
7206	45.59	0.00	8.78	V	54.37	73.98	19.61	PK
7206	34.18	1.85	8.78	V	44.81	53.98	9.17	AV
4804	49.93	0.00	-0.61	H	49.32	73.98	24.66	PK
4804	38.44	1.85	-0.61	H	39.68	53.98	14.30	AV
7206	46.35	0.00	8.78	H	55.13	73.98	18.85	PK
7206	34.24	1.85	8.78	H	44.87	53.98	9.11	AV

*A.F. : Antenna Factor / C.L. : Cable Loss / A.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor + Duty Cycle Factor
5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH.19_ Data packet length (Min)

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.-A.G.+D.F. [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
4880	50.22	0.00	0.19	V	50.41	73.98	23.57	PK
4880	39.16	1.85	0.19	V	41.2	53.98	12.78	AV
7320	46.48	0.00	8.85	V	55.33	73.98	18.65	PK
7320	34.35	1.85	8.85	V	45.05	53.98	8.93	AV
4880	50.73	0.00	0.19	H	50.92	73.98	23.06	PK
4880	39.72	1.85	0.19	H	41.76	53.98	12.22	AV
7320	46.61	0.00	8.85	H	55.46	73.98	18.52	PK
7320	34.40	1.85	8.85	H	45.1	53.98	8.88	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor + Duty Cycle Factor
5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH.39_ Data packet length (Min)

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.-A.G.+D.F. [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
4960	51.38	0.00	0.92	V	52.30	73.98	21.68	PK
4960	40.57	1.85	0.92	V	43.34	53.98	10.64	AV
7440	46.22	0.00	9.03	V	55.25	73.98	18.73	PK
7440	34.06	1.85	9.03	V	44.94	53.98	9.04	AV
4960	52.00	0.00	0.92	H	52.92	73.98	21.06	PK
4960	41.01	1.85	0.92	H	43.78	53.98	10.20	AV
7440	46.73	0.00	9.03	H	55.76	73.98	18.22	PK
7440	34.09	1.85	9.03	H	44.97	53.98	9.01	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor + Duty Cycle Factor
5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH.0_ Data packet length (Max)

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.-A.G.+D.F. [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
4804	49.14	0.00	-0.61	V	48.53	73.98	25.45	PK
4804	37.63	2.34	-0.61	V	39.36	53.98	14.62	AV
7206	46.11	0.00	8.78	V	54.89	73.98	19.09	PK
7206	34.20	2.34	8.78	V	45.32	53.98	8.66	AV
4804	49.55	0.00	-0.61	H	48.94	73.98	25.04	PK
4804	38.26	2.34	-0.61	H	39.99	53.98	13.99	AV
7206	46.57	0.00	8.78	H	55.35	73.98	18.63	PK
7206	34.19	2.34	8.78	H	45.31	53.98	8.67	AV

*A.F. : Antenna Factor / C.L. : Cable Loss / A.G. : Amplifier Gain / D.F. : Distance Factor

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor + Duty Cycle Factor
5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH.19_ Data packet length (Max)

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.-A.G.+D.F. [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
4880	49.82	0.00	0.19	V	50.01	73.98	23.97	PK
4880	38.96	2.34	0.19	V	41.49	53.98	12.49	AV
7320	46.52	0.00	8.85	V	55.37	73.98	18.61	PK
7320	34.39	2.34	8.85	V	45.58	53.98	8.40	AV
4880	50.31	0.00	0.19	H	50.5	73.98	23.48	PK
4880	39.44	2.34	0.19	H	41.97	53.98	12.01	AV
7320	46.79	0.00	8.85	H	55.64	73.98	18.34	PK
7320	34.39	2.34	8.85	H	45.58	53.98	8.40	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor + Duty Cycle Factor
5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH.39_ Data packet length (Max)

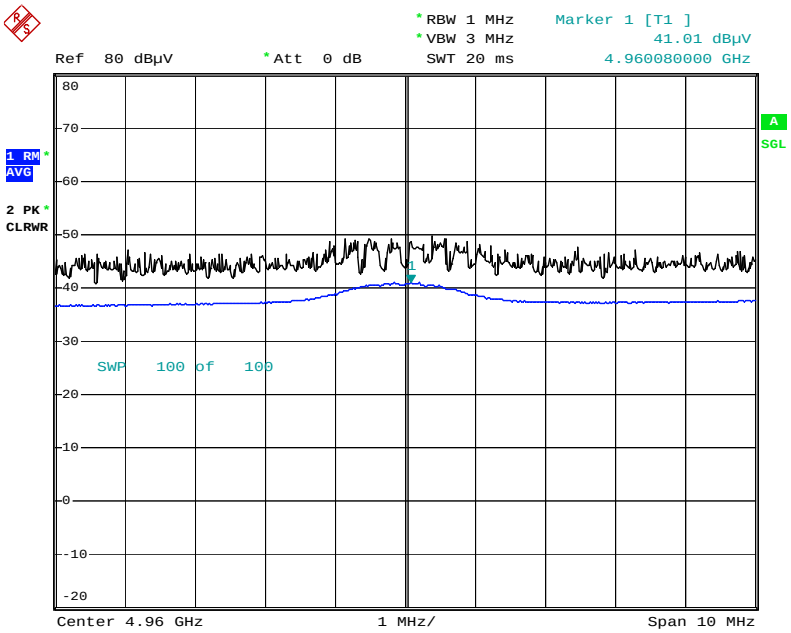
Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.-A.G.+D.F. [dBm]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
4960	51.40	0.00	0.92	V	52.32	73.98	21.66	PK
4960	40.18	2.34	0.92	V	43.44	53.98	10.54	AV
7440	46.62	0.00	9.03	V	55.65	73.98	18.33	PK
7440	34.07	2.34	9.03	V	45.44	53.98	8.54	AV
4960	52.13	0.00	0.92	H	53.05	73.98	20.93	PK
4960	40.65	2.34	0.92	H	43.91	53.98	10.07	AV
7440	46.53	0.00	9.03	H	55.56	73.98	18.42	PK
7440	34.10	2.34	9.03	H	45.47	53.98	8.51	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor + Duty Cycle Factor
5. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

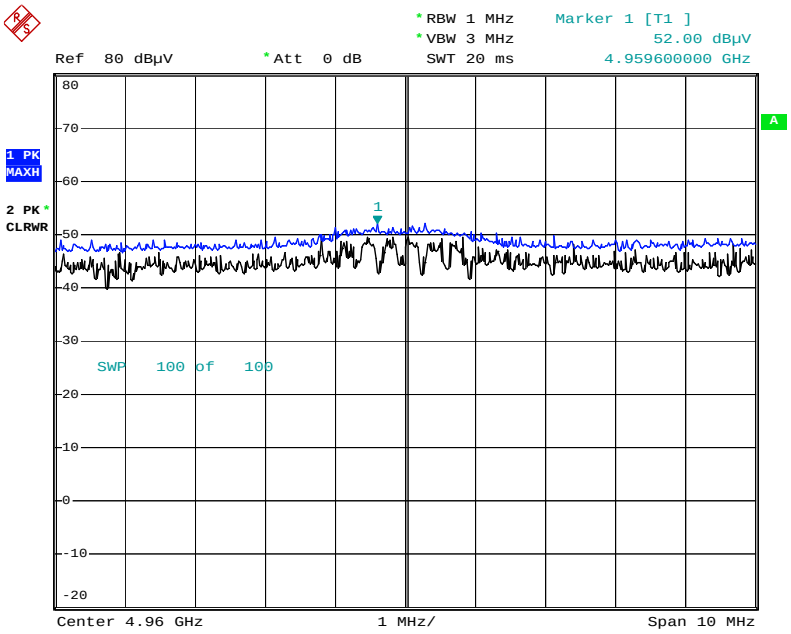
▣ RESULT PLOTS_Data packet length (Min) (Worst case : Y-H)

Radiated Spurious Emissions plot – Average Reading (Ch.39 2nd Harmonic)



Date: 23.NOV.2016 16:36:18

Radiated Spurious Emissions plot – Peak Reading (Ch.39 2nd Harmonic)

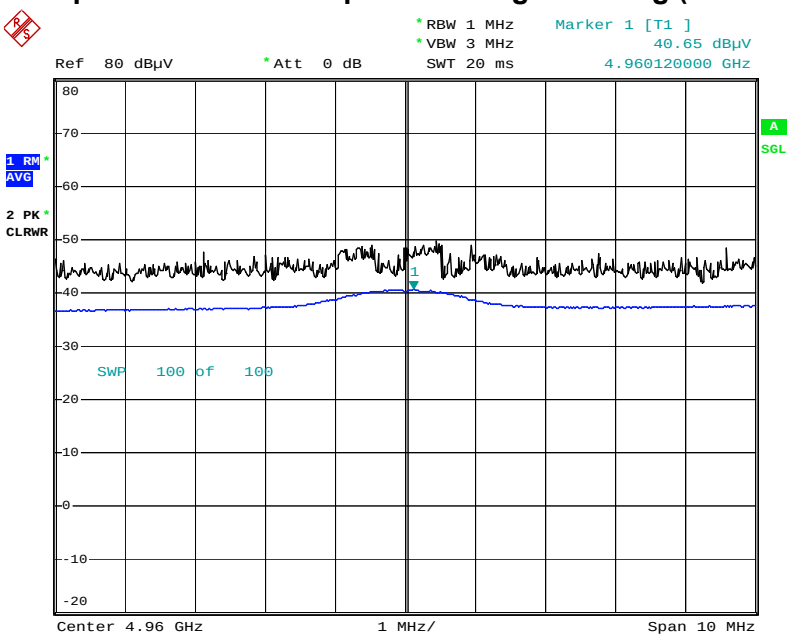


Date: 23.NOV.2016 16:37:10

Note : Only the worst case plots for Radiated Spurious Emissions.

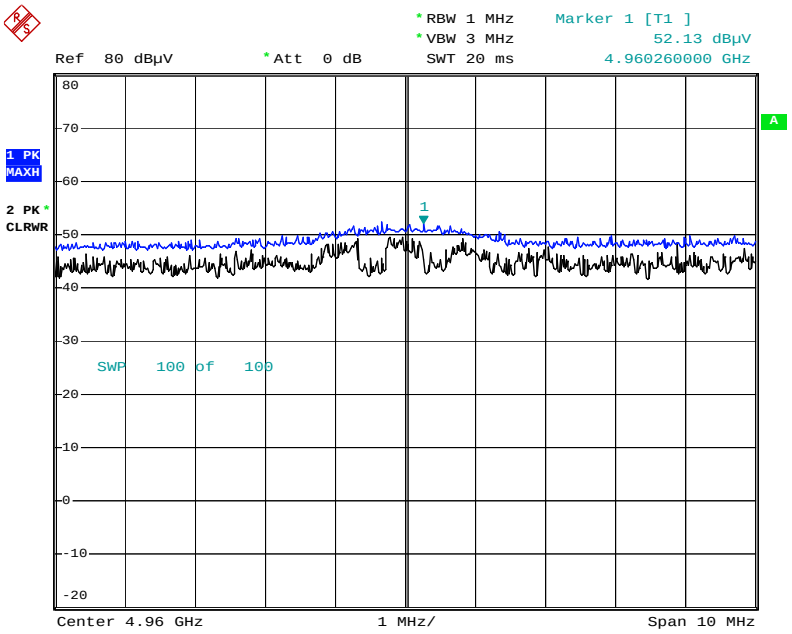
▣ RESULT PLOTS_Data packet length (Max) (Worst case : Y-H)

Radiated Spurious Emissions plot – Average Reading (Ch.39 2nd Harmonic)



Date: 23.NOV.2016 16:39:12

Radiated Spurious Emissions plot – Peak Reading (Ch.39 2nd Harmonic)



Date: 23.NOV.2016 16:38:47

Note : Only the worst case plots for Radiated Spurious Emissions.

9.6.2 RADIATED RESTRICTED BAND EDGES

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Operation Mode	BT_LE Data packet length (Min)
Operating Frequency	2402 MHz
Channel No.	0

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.+D.F. [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
2390.0	19.45	0.00	32.68	H	52.13	73.98	21.85	PK
2390.0	8.27	1.85	32.68	H	42.80	53.98	11.19	AV
2390.0	19.54	0.00	32.68	V	52.22	73.98	21.77	PK
2390.0	8.29	1.85	32.68	V	42.82	53.98	11.16	AV

Operation Mode	BT_LE Data packet length (Max)
Operating Frequency	2402 MHz
Channel No.	0

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.+D.F. [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
2390.0	19.67	0.00	32.68	H	52.35	73.98	21.63	PK
2390.0	8.34	2.34	32.68	H	43.36	53.98	10.62	AV
2390.0	19.74	0.00	32.68	V	52.42	73.98	21.57	PK
2390.0	8.32	2.34	32.68	V	43.34	53.98	10.64	AV

Notes:

1. Frequency range of measurement = 2310 MHz ~ 2390 MHz
2. Total = Reading Value + Antenna Factor + Cable Loss + Duty Cycle Factor + Distance Factor
3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode	BT_LE Data packet length (Min)
Operating Frequency	2480 MHz
Channel No.	39

Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.+D.F. [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
2483.5	19.66	0.00	33.05	H	52.71	73.98	21.27	PK
2483.5	8.86	1.85	33.05	H	43.76	53.98	10.22	AV
2483.5	19.23	0.00	33.05	V	52.28	73.98	21.71	PK
2483.5	8.58	1.85	33.05	V	43.48	53.98	10.50	AV

Operation Mode	BT_LE Data packet length (Max)
Operating Frequency	2480 MHz
Channel No.	39

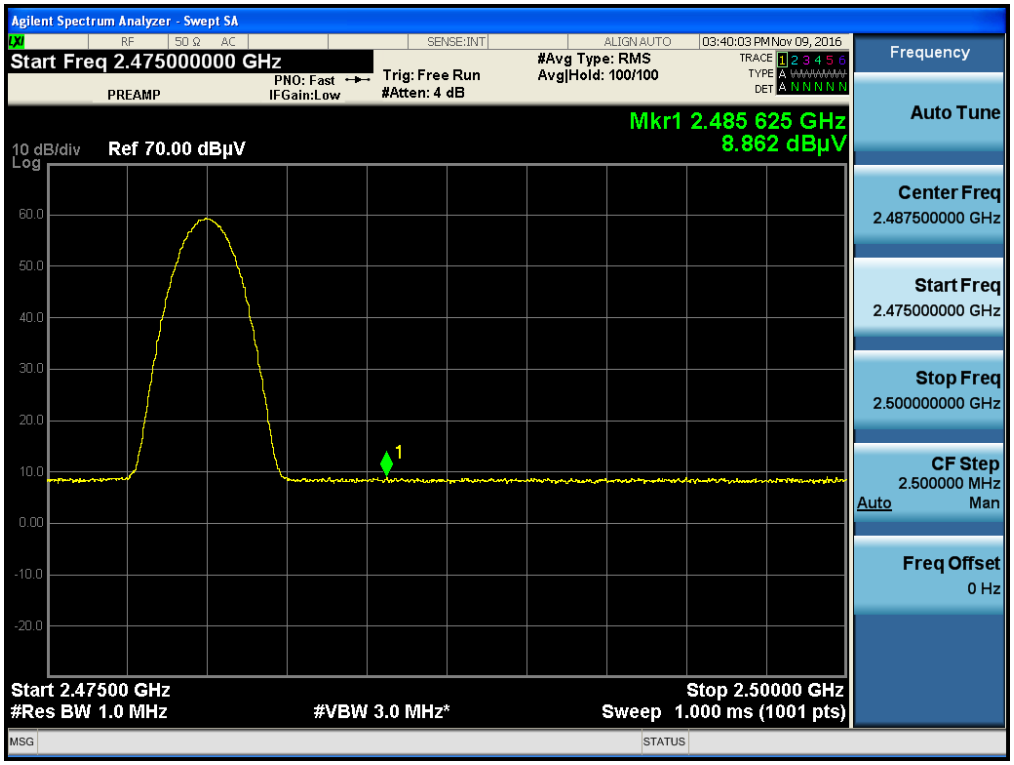
Frequency [MHz]	Reading [dBuV/m]	Duty Cycle Factor [dB]	A.F.+C.L.+D.F. [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Measurement Type
2483.5	20.21	0.00	33.05	H	53.26	73.98	20.72	PK
2483.5	8.91	2.34	33.05	H	44.30	53.98	9.68	AV
2483.5	19.52	0.00	33.05	V	52.57	73.98	21.41	PK
2483.5	8.65	2.34	33.05	V	44.04	53.98	9.94	AV

Notes:

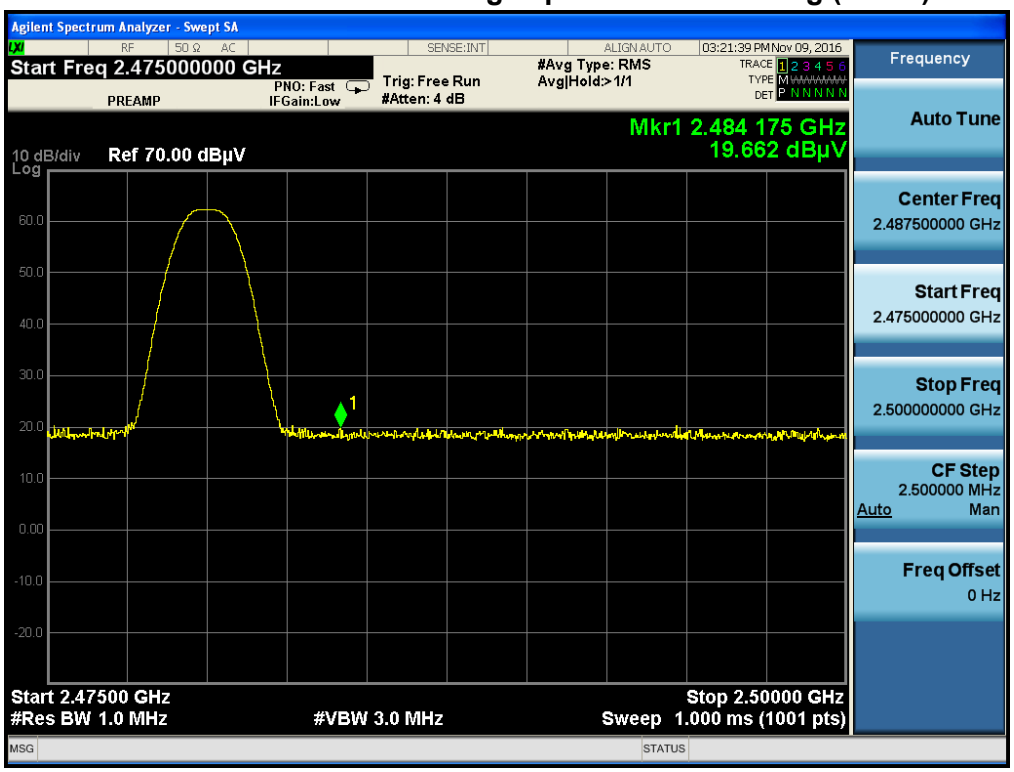
1. Frequency range of measurement = 2483.5 MHz ~ 2500 MHz
2. Total = Reading Value + Antenna Factor + Cable Loss + Duty Cycle Factor + Distance Factor
3. Distance extrapolation factor = 20 log (test distance / specific distance) (dB)
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

▣ RESULT PLOTS_Data packet length (Min) (Worst case : X-H)

Radiated Restricted Band Edges plot – Average Reading (Ch.39)



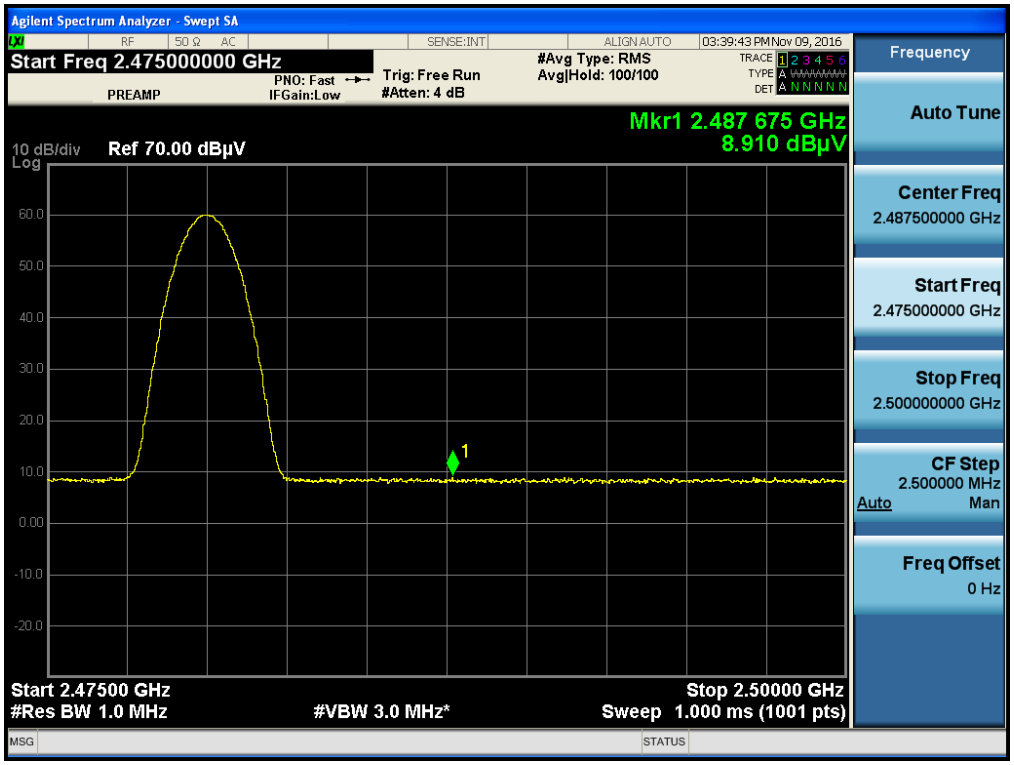
Radiated Restricted Band Edges plot – Peak Reading (Ch.39)



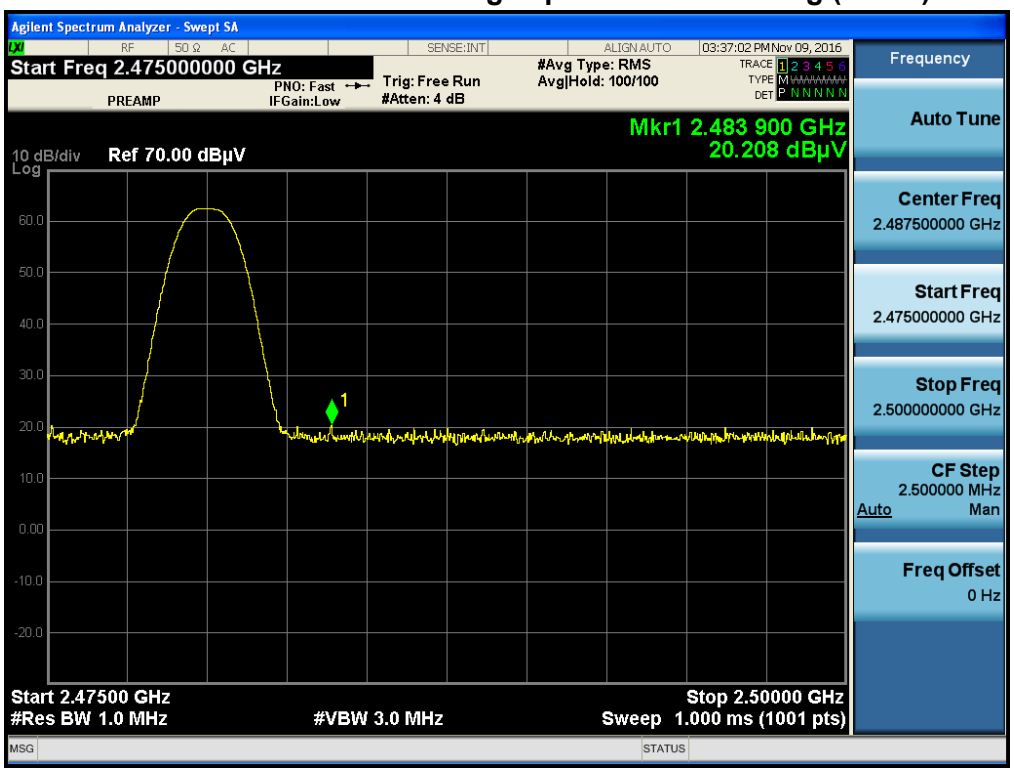
Note : Only the worst case plots for Radiated Restricted Band Edges.

▣ RESULT PLOTS_Data packet length (Max) (Worst case : X-H)

Radiated Restricted Band Edges plot – Average Reading (Ch.39)



Radiated Restricted Band Edges plot – Peak Reading (Ch.39)



Note : Only the worst case plots for Radiated Restricted Band Edges.

9.7 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor

▣ RESULT PLOTS

Conducted Emissions (Line 1)

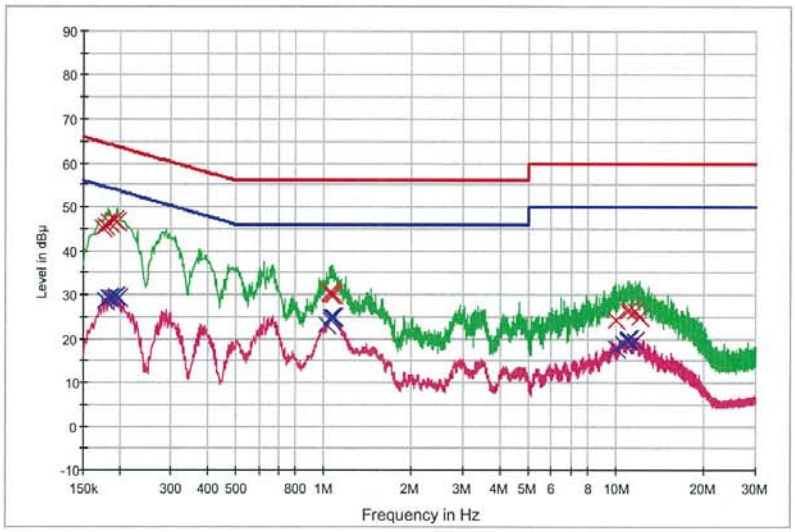
EMI Auto Test(3) 1 / 2

HCT TEST Report

Common Information

EUT:	SM-A320F/DS
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	BT LE MODE

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.174000	45.2	9.000	Off	L1	9.7	19.6	64.8
0.178000	45.7	9.000	Off	L1	9.7	18.9	64.6
0.182000	46.5	9.000	Off	L1	9.7	17.8	64.4
0.186000	46.3	9.000	Off	L1	9.7	17.9	64.2
0.192000	46.8	9.000	Off	L1	9.7	17.2	63.9
0.196000	46.5	9.000	Off	L1	9.7	17.3	63.8
1.046000	30.2	9.000	Off	L1	9.8	25.8	56.0
1.052000	29.9	9.000	Off	L1	9.8	26.1	56.0
1.058000	30.7	9.000	Off	L1	9.8	25.3	56.0
1.074000	30.5	9.000	Off	L1	9.8	25.5	56.0
1.080000	30.0	9.000	Off	L1	9.8	26.0	56.0
1.084000	30.1	9.000	Off	L1	9.8	25.9	56.0
9.978000	24.3	9.000	Off	L1	10.1	35.7	60.0
10.954000	26.4	9.000	Off	L1	10.1	33.6	60.0
11.040000	26.5	9.000	Off	L1	10.1	33.5	60.0
11.134000	26.5	9.000	Off	L1	10.1	33.5	60.0
11.666000	26.2	9.000	Off	L1	10.1	33.8	60.0
12.048000	24.8	9.000	Off	L1	10.1	35.2	60.0

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EMI Auto Test(3) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.178000	28.8	9.000	Off	L1	9.7	25.8	54.6
0.182000	29.4	9.000	Off	L1	9.7	24.9	54.4
0.186000	29.3	9.000	Off	L1	9.7	24.9	54.2
0.190000	29.4	9.000	Off	L1	9.7	24.6	54.0
0.194000	29.7	9.000	Off	L1	9.7	24.2	53.9
0.198000	29.3	9.000	Off	L1	9.7	24.4	53.7
1.020000	23.2	9.000	Off	L1	9.8	22.8	46.0
1.052000	24.1	9.000	Off	L1	9.8	21.9	46.0
1.060000	24.8	9.000	Off	L1	9.8	21.2	46.0
1.064000	24.8	9.000	Off	L1	9.8	21.2	46.0
1.072000	24.9	9.000	Off	L1	9.8	21.1	46.0
1.084000	24.8	9.000	Off	L1	9.8	21.2	46.0
9.978000	17.9	9.000	Off	L1	10.1	32.1	50.0
10.556000	18.7	9.000	Off	L1	10.1	31.3	50.0
10.954000	19.5	9.000	Off	L1	10.1	30.5	50.0
11.034000	19.9	9.000	Off	L1	10.1	30.1	50.0
11.134000	19.9	9.000	Off	L1	10.1	30.1	50.0
11.666000	19.5	9.000	Off	L1	10.1	30.5	50.0

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Conducted Emissions (Line 2)

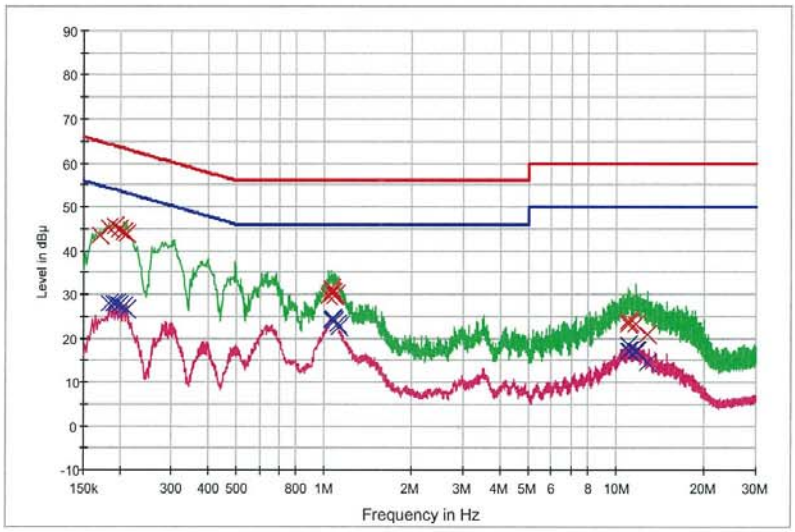
EMI Auto Test(3) 1 / 2

HCT TEST Report

Common Information

EUT:	SM-A320F/DS
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	BT LE MODE

FCC CLASS B



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.170000	43.5	9.000	Off	N	9.7	21.5	65.0
0.184000	45.3	9.000	Off	N	9.7	19.0	64.3
0.192000	45.4	9.000	Off	N	9.7	18.5	63.9
0.198000	45.0	9.000	Off	N	9.7	18.7	63.7
0.206000	44.3	9.000	Off	N	9.7	19.0	63.4
0.210000	44.1	9.000	Off	N	9.7	19.1	63.2
1.038000	29.6	9.000	Off	N	9.7	26.4	56.0
1.054000	30.8	9.000	Off	N	9.7	25.2	56.0
1.058000	31.2	9.000	Off	N	9.7	24.8	56.0
1.076000	30.2	9.000	Off	N	9.7	25.8	56.0
1.082000	29.8	9.000	Off	N	9.7	26.2	56.0
1.100000	30.0	9.000	Off	N	9.7	26.0	56.0
10.968000	23.1	9.000	Off	N	10.1	36.9	60.0
11.034000	23.9	9.000	Off	N	10.1	36.1	60.0
11.112000	23.5	9.000	Off	N	10.1	36.5	60.0
11.160000	23.4	9.000	Off	N	10.1	36.6	60.0
11.686000	23.3	9.000	Off	N	10.1	36.7	60.0
12.746000	20.7	9.000	Off	N	10.1	39.3	60.0

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EMI Auto Test(3) 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.182000	27.9	9.000	Off	N	9.7	26.5	54.4
0.190000	27.9	9.000	Off	N	9.7	26.1	54.0
0.194000	28.1	9.000	Off	N	9.7	25.8	53.9
0.198000	27.7	9.000	Off	N	9.7	26.0	53.7
0.206000	27.2	9.000	Off	N	9.7	26.1	53.4
0.210000	26.5	9.000	Off	N	9.7	26.7	53.2
1.054000	24.3	9.000	Off	N	9.7	21.7	46.0
1.068000	24.6	9.000	Off	N	9.7	21.4	46.0
1.076000	24.3	9.000	Off	N	9.7	21.7	46.0
1.082000	24.0	9.000	Off	N	9.7	22.0	46.0
1.114000	23.1	9.000	Off	N	9.7	22.9	46.0
1.122000	22.6	9.000	Off	N	9.7	23.4	46.0
10.968000	17.0	9.000	Off	N	10.1	33.0	50.0
11.034000	18.4	9.000	Off	N	10.1	31.6	50.0
11.160000	17.0	9.000	Off	N	10.1	33.0	50.0
11.686000	17.3	9.000	Off	N	10.1	32.7	50.0
11.704000	17.2	9.000	Off	N	10.1	32.8	50.0
12.746000	14.5	9.000	Off	N	10.1	35.5	50.0

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10. LIST OF TEST EQUIPMENT

10.1 LIST OF TEST EQUIPMENT(Conducted Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	12/28/2015	Annual	100073
Rohde & Schwarz	ESCI / Test Receiver	12/28/2015	Annual	100584
Agilent	N9020A / Signal Analyzer	06/24/2016	Annual	MY51110085
Agilent	N1911A / Power Meter	03/11/2016	Annual	MY45100523
Agilent	N1921A / Power Sensor	03/11/2016	Annual	MY52260025
Agilent	87300B / Directional Coupler	11/23/2016	Annual	3116A03621
Hewlett Packard	11667B / Power Splitter	06/14/2016	Annual	05001
Hewlett Packard	E3632A / DC Power Supply	03/09/2016	Annual	KR75303962
Agilent	8493C / Attenuator(10 dB)	07/15/2016	Annual	07560
Rohde & Schwarz	CBT / Bluetooth Tester	05/16/2016	Annual	100422

10.2 LIST OF TEST EQUIPMENT(Radiated Test)

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Audix	AM4000 / Antenna Position Tower	N/A	N/A	N/A
Audix	Turn Table	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Rohde & Schwarz	Loop Antenna	02/23/2016	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	04/15/2015	Biennial	255
Schwarzbeck	BBHA 9120D / Horn Antenna	05/07/2015	Biennial	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	09/03/2015	Biennial	BBHA9170541
Rohde & Schwarz	FSP / Spectrum Analyzer	09/10/2016	Annual	100688
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/23/2016	Annual	101068-SZ
Wainwright Instruments	WHK3.0/18G-10EF / High Pass Filter	06/24/2016	Annual	8
Wainwright Instruments	WHFX7.0/18G-8SS / High Pass Filter	05/13/2016	Annual	29
Wainwright Instruments	WRCJV2400/2483.5-2370/2520-60/12SS / Band Reject Filter	07/06/2016	Annual	2
Wainwright Instruments	WRCJV5100/5850-40/50-8EEK / Band Reject Filter	01/26/2016	Annual	2
Agilent	8493C-10 / Attenuator(10 dB)	08/11/2016	Annual	76649
CERNEX	CBLU1183540 / Power Amplifier	07/15/2016	Annual	22964
CERNEX	CBL06185030 / Power Amplifier	07/15/2016	Annual	22965
CERNEX	CBL18265035 / Power Amplifier	07/11/2016	Annual	22966
CERNEX	CBL26405040 / Power Amplifier	07/11/2016	Annual	25956
TESCOM	TC-3000C / Bluetooth Tester	04/01/2016	Annual	3000C000276