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TEST REPORT

According to : FCC 47CFR part 15 subpart C

Test Report No.	:	CTK-2016-01298
Date of Issue	:	2016-10-28
FCC ID	:	2AGZ5-IDB-02S
Model/Type No.	:	IDB-02S
Kind of Product	:	BLE Dongle
Applicant	:	INNOSYS CO., LTD
Applicant Address	:	1-1107, Acedongbaek-Tower, 16-4, Dongbaekjungang-ro 16beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Korea
Manufacturer	:	INNOSYS CO., LTD
Manufacturer Address	:	1-1107, Acedongbaek-Tower, 16-4, Dongbaekjungang-ro 16beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Korea
Contact Person	:	YEONKOO KIM
Telephone	:	+82-31-273-0029
Received Date	:	2016-10-10
Test period	:	Start : 2016-10-17 End : 2016-10-27
Test Results	:	☒ In Compliance ☐ Not in Compliance

The test results presented in this report relate only to the object tested.

Tested by

Y. T. Lee

Young-taek Lee
Test Engineer
Date: 2016-10-24

Reviewed by

Y. J. Park

Young-Joon, Park
Technical Manager
Date: 2016-10-24

REPORT REVISION HISTORY

Date	Revision	Page No
2016-10-28	Issued (CTK-2016-01298)	All

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1.0 General Product Description

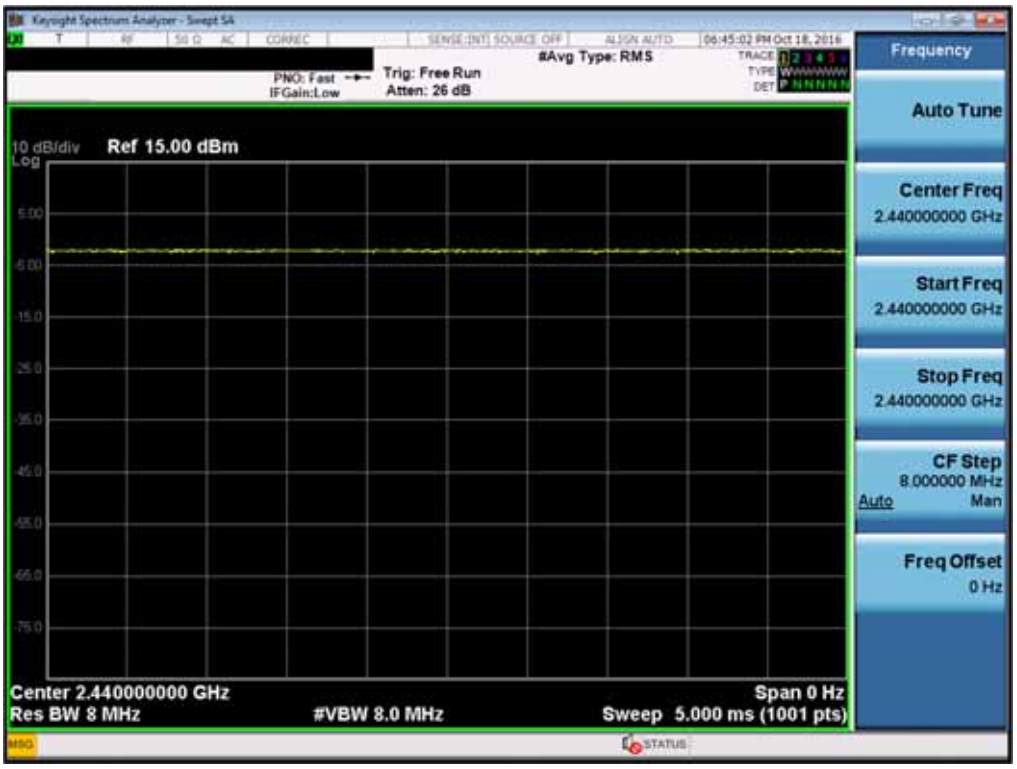
Kind of product	BLE Dongle
FCC IC	2AGZ5-IDB-02S
Equipment model name	IDB-02S
Variant Model	-
Serial number	N/A
Test SW Version	Smart RF studio7 Ver. 2.4.3
RF Power setting in Test SW	0 dBm
Antenna type	Chip antenna
Antenna Gain	Peak 1.47 dBi
Frequency Range	2 402 MHz – 2 480 MHz
RF output power	-1.165 dBm (Peak Conducted)
Number of channels	40
Rated Channel spacing	2 MHz
Type of Modulation	GFSK
Power supply	DC 3.3 V
Test Site Registration Number	8737A-2

1.1 Tested Frequency

	Low	Middle	High
Frequency (MHz)	2 402	2 440	2 480

1.2 Duty Cycle

Duty Cycle	100 %



1.3 Device Modifications

None

1.4 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Notebook Computer	SAMSUNG	NT700G7C	JATX91MD100248T

1.5 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

1.6 Test Facility

The measurement facility is located at 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

1.7 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Registration Number	Logo
USA	**FCC**	FCC Part 15 & 18 EMI (Electromagnetic Interference / Emission)	805871	
CANADA	**IC**	IC EMI (3/10m test site)	8737A-2	
JAPAN	**VCCI**	VCCI V-3 EMI (Electromagnetic Interference / Emission)	C-986 T-1843 R-3627 G-387	
KOREA	**MSIP**	EMI (Electromagnetic Interference / Emission) EMS (Electromagnetic Susceptibility / Immunity)	KR0025	

2.0 Summary of tests

Section in RSS-GEN, RSS-247	Parameter	Result (note)
15.247(a)	6 dB Bandwidth	C
15.247(e)	Transmitter Power Spectral Density	C
15.247(b)	Maximum peak conducted output power	C
15.247(d)	Unwanted Emission (Conducted)	C
NA	Receiver Emission	NA
2.1091	RF exposure evaluation	C
15.209	Unwanted Emission (Radiated)	C
15.207(a)	AC Power line Conducted Emission	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

The sample was tested according to the following specification:
- ANSI C63.10-2013

The tests were performed according to the method of measurements prescribed in 558074 D01 DTS Meas Guidance v03r05.

2.1 Technical Characteristic Test

2.1.1 6dB Bandwidth & 99% Bandwidth

Procedure:

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

VBW ≥ 3 x RBW

Sweep = auto

Trace = Max hold

Detector function = peak

Measurement Data:

Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Result
2 402	0.684	1.076	Complies
2 440	0.677	1.079	Complies
2 480	0.667	1.077	Complies

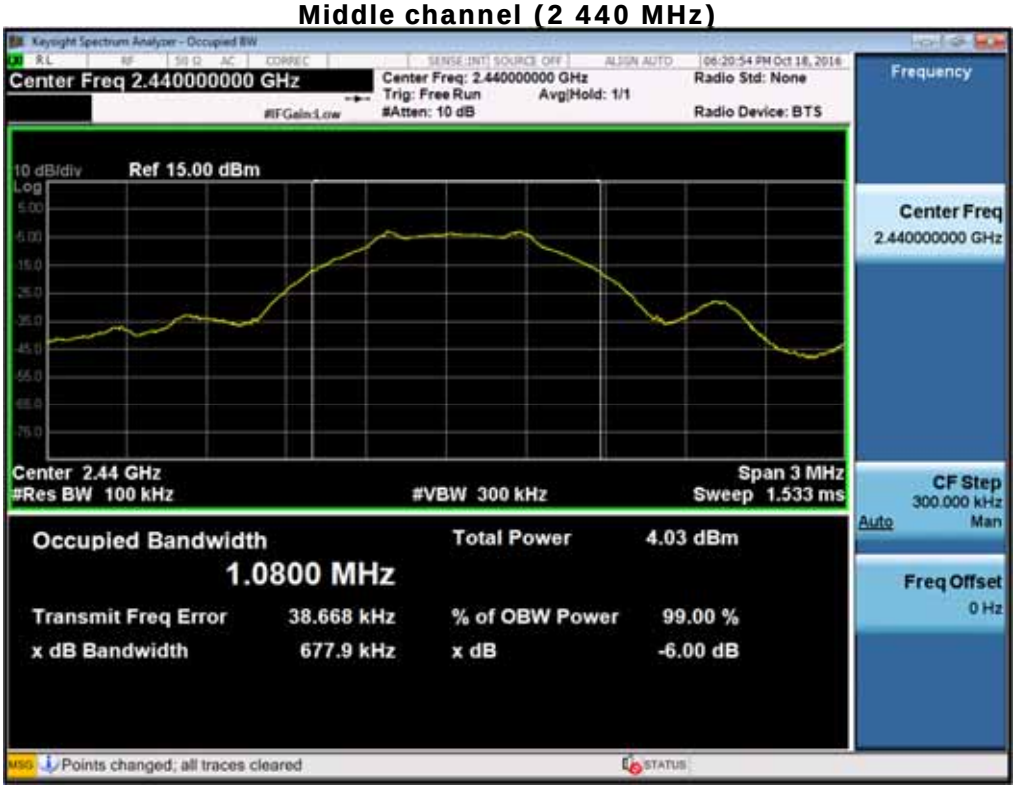
Minimum Standard:

6 dB Bandwidth > 500kHz

See next pages for actual measured spectrum plots.

Low channel (2 402 MHz)

Middle channel (2 440 MHz)



High channel (2 480 MHz)

2.1.2 Maximum peak Conducted Output Power

Test Procedures

Maximum Peak Output Power from the EUT were measured according to the dictates power measurement procedure in section 11.9.1.1 of ANSI C63.10-2013.

This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

a) Set the RBW ≥ DTS bandwidth
b) Set the VBW ≥ 3 x RBW
c) Set the span ≥ 3 x RBW
d) Sweep time = auto couple
e) Detector = peak
e) Trace mode= max hold
f) Allow trace to fully stabilize.
g) Use peak marker function to determine the peak amplitude level.

Limit

< 1 W (30 dBm)

Test Results

Frequency (MHz)	Maximum peak Conducted Output Power		
	Output power (dBm)	Output power (mW)	Result
2 402	-1.165	0.765	Complies
2 440	-2.381	0.578	Complies
2 480	-2.890	0.514	Complies

See next pages for actual measured spectrum plots.

Low channel (2 402 MHz)

Middle channel (2 440 MHz)

High channel (2 480 MHz)

2.1.3 Power Spectral Density

Procedure:

Power Spectral Density from the EUT were measured according to the dictates PKPSD measurement procedure in section 11.10.2 of ANSI C63.10-2013.

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance.

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to : 3 kHz ≤ RBW ≤ 100 kHz
d) Set the VBW ≥ 3 x RBW
e) Detector = peak
f) Sweep time = auto couple
g) Trace mode = max hold
h) Allow trace to fully stabilize
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceed limit, reduce RBW(no less than 3 kHz) and repeat.

Test results:

Frequency (MHz)	Power Spectral Density	
	dBm / 3 kHz	Result
2 402	-13.628	Complies
2 440	-14.627	Complies
2 480	-15.745	Complies

Minimum Standard:

Power Spectral Density	< 8dBm/3 kHz BW

See next pages for actual measured spectrum plots.

Low channel (2 402 MHz)

Middle channel (2 440 MHz)

High channel (2 480 MHz)

2.1.4 Unwanted emission (Conducted)

Procedure:

The Unwanted emission from the EUT were measured according to the dictates PKPSD measurement procedure in section 11.11 of ANSI C63.10-2013.

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

The spectrum analyzer is set to:
Center frequency = the highest, middle and the lowest channels
RBW = 100 kHz VBW ≥ 3 x RBW)
Trace = Max hold Detector function = peak
Sweep = auto

Test results: Complies

- All conducted emission in any 100kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest in-band spectral density. Therefore the applying equipment meets the requirement.

Minimum Standard:	> 20 dBc

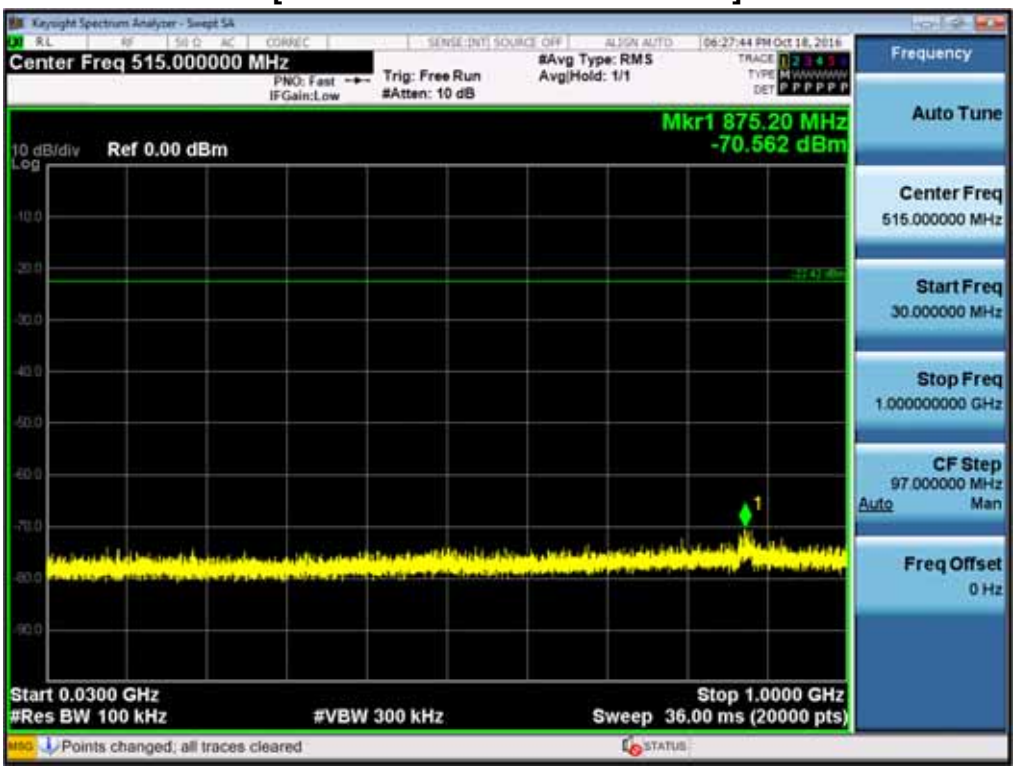
See next pages for actual measured spectrum plots.

Band–edge (Low channel)

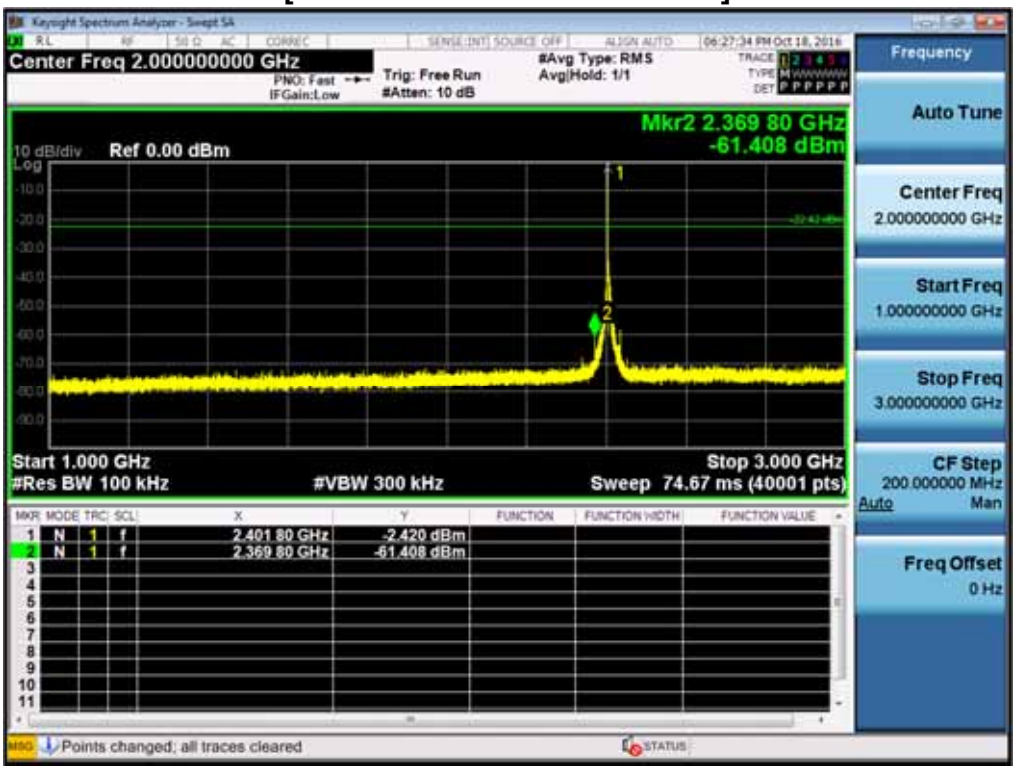
Band–edge (High channel)

Low channel (2 402 MHz)

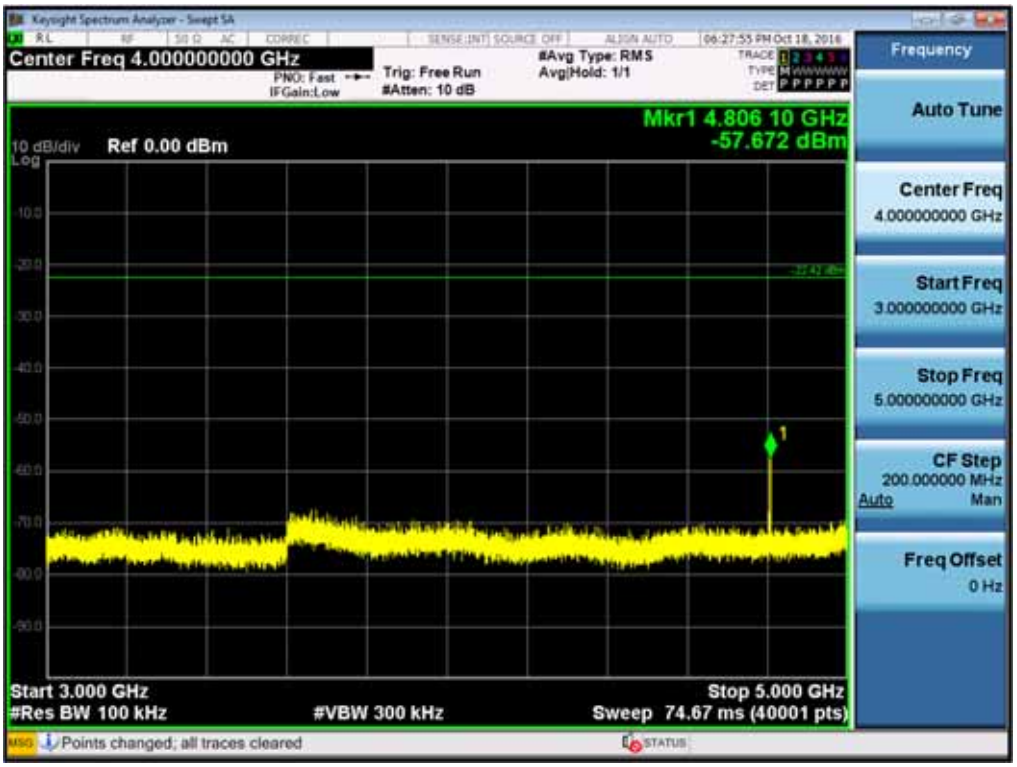
[Low channel - 30MHz ~ 1GHz]



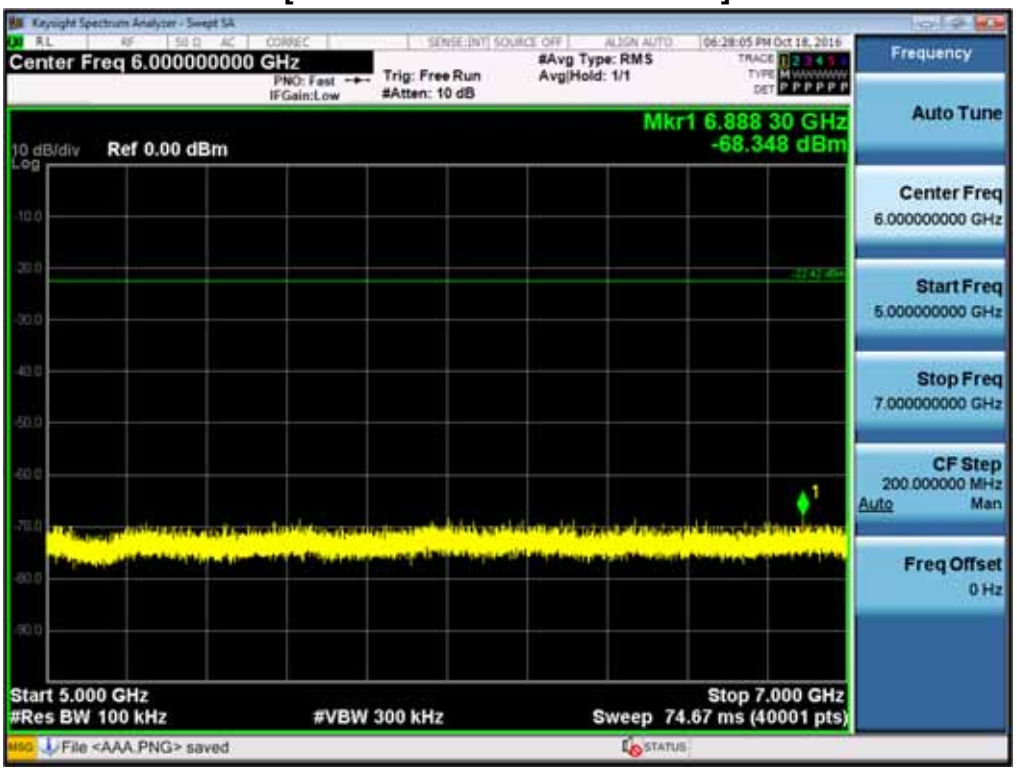
[Low channel - 1GHz ~ 3GHz]



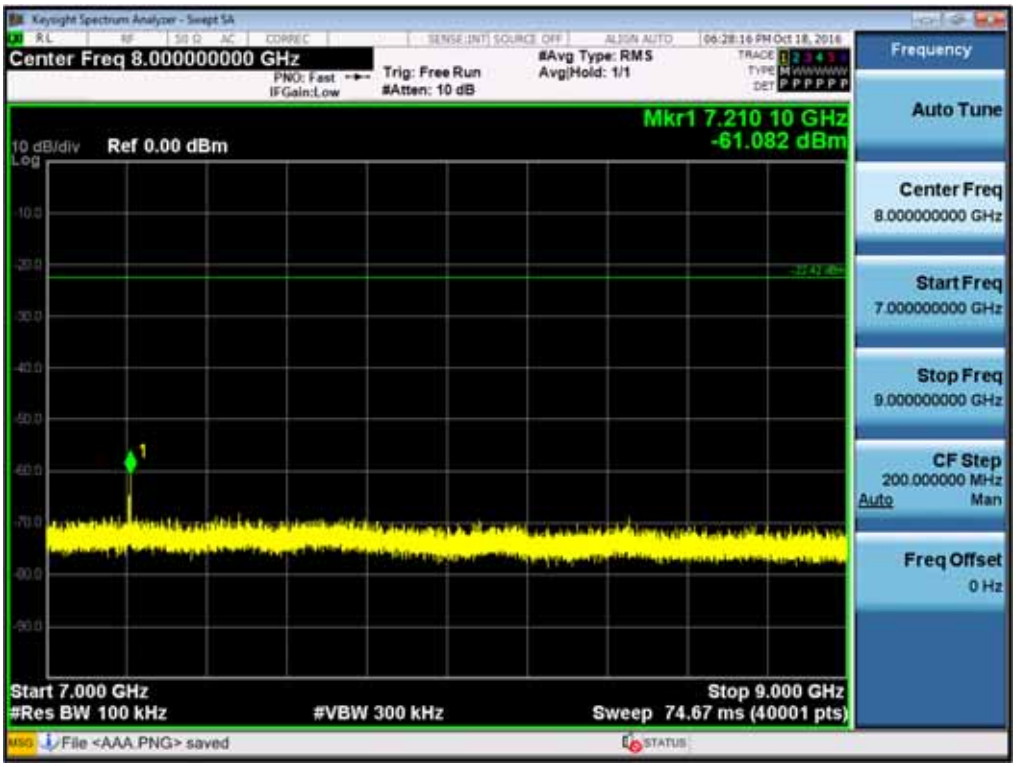
[Low channel - 3GHz ~ 5GHz]



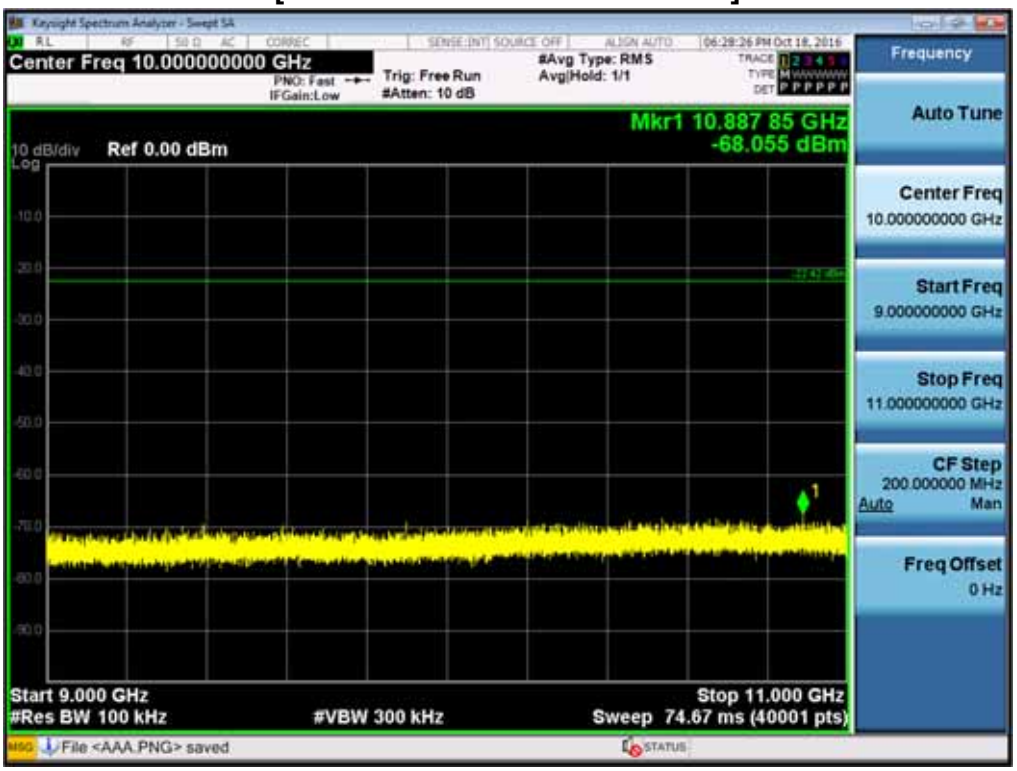
[Low channel - 5GHz ~ 7GHz]



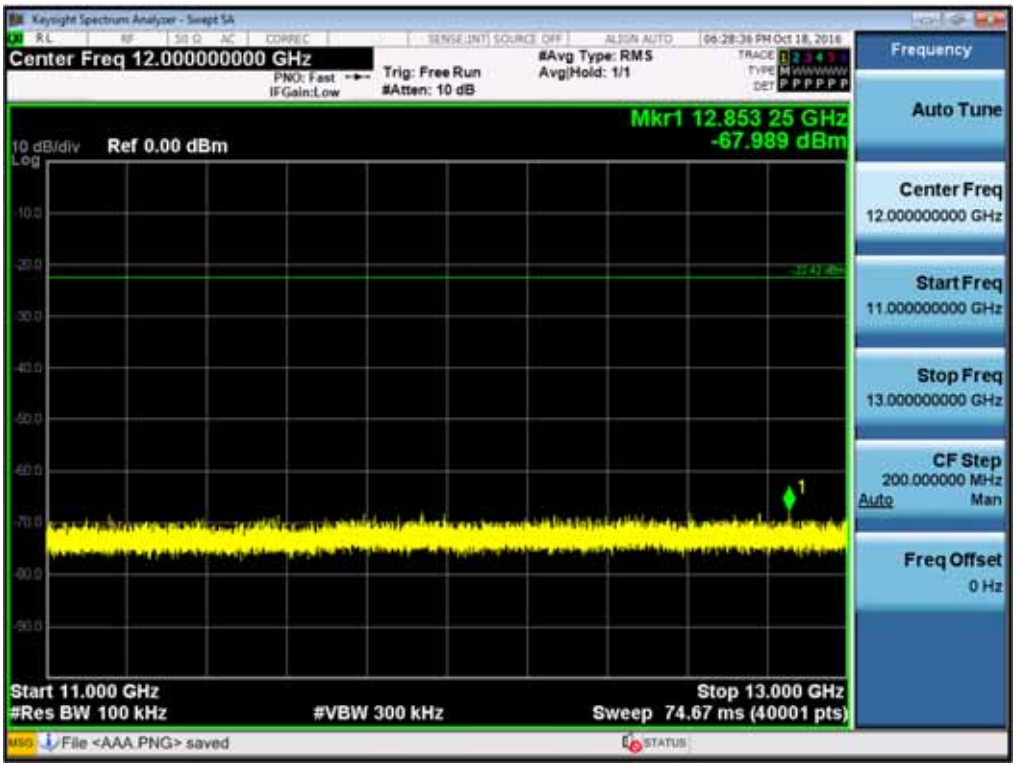
[Low channel - 7GHz ~ 9GHz]



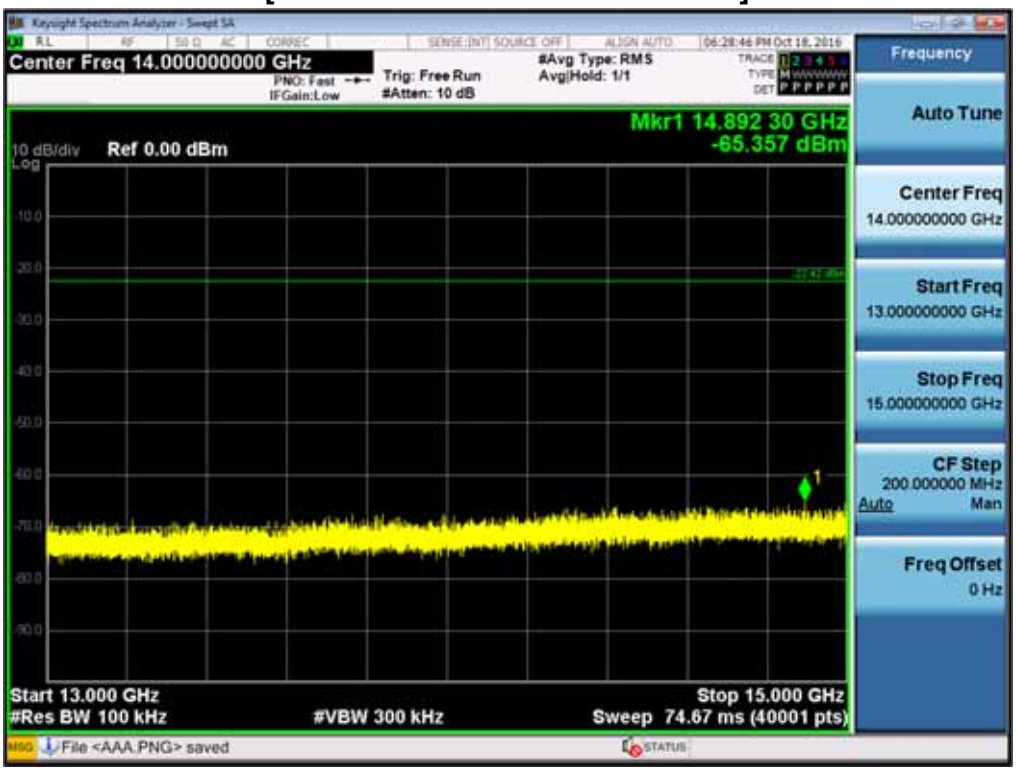
[Low channel - 9GHz ~ 11GHz]



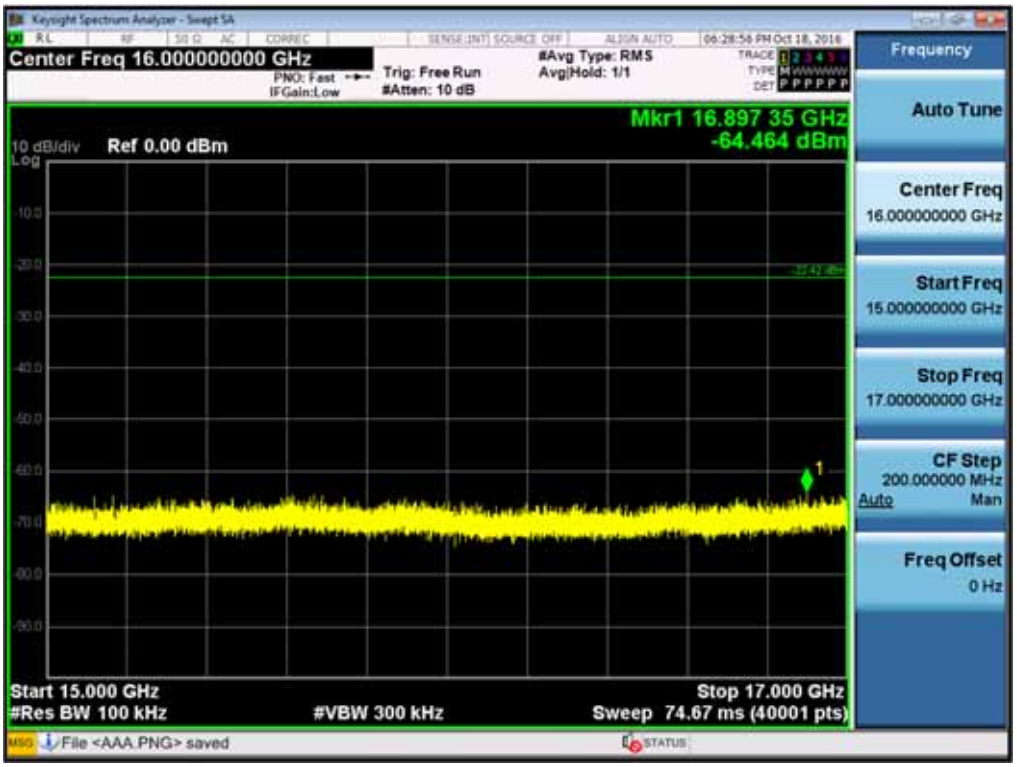
[Low channel - 11GHz ~ 13GHz]



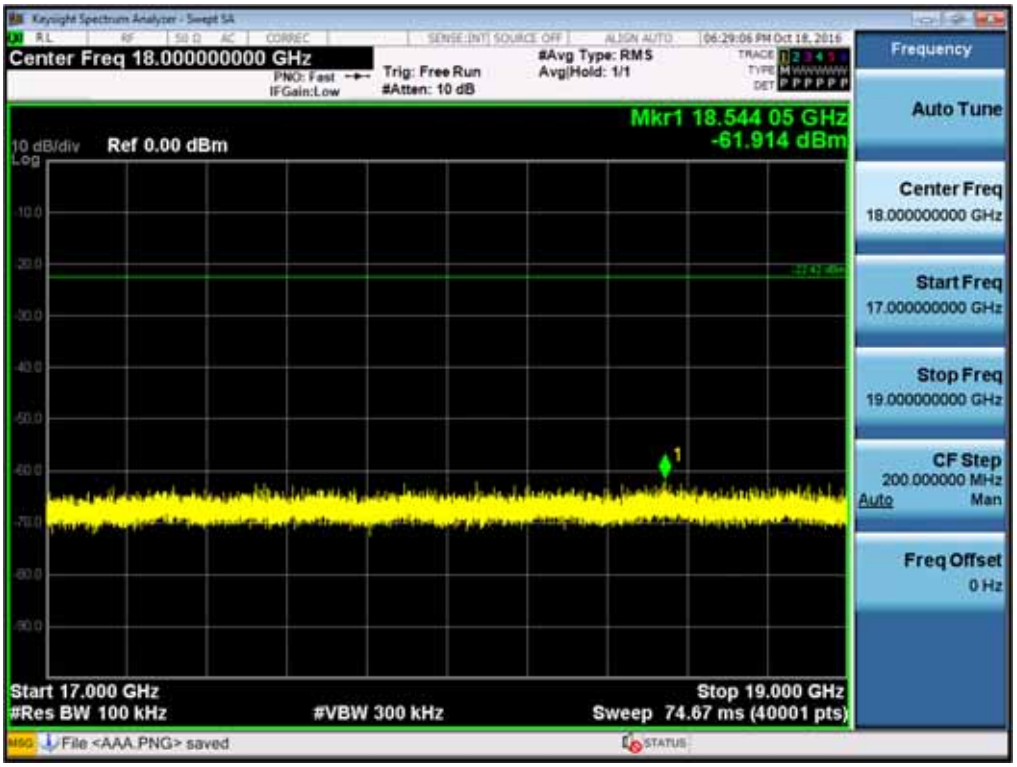
[Low channel - 13GHz ~ 15GHz]



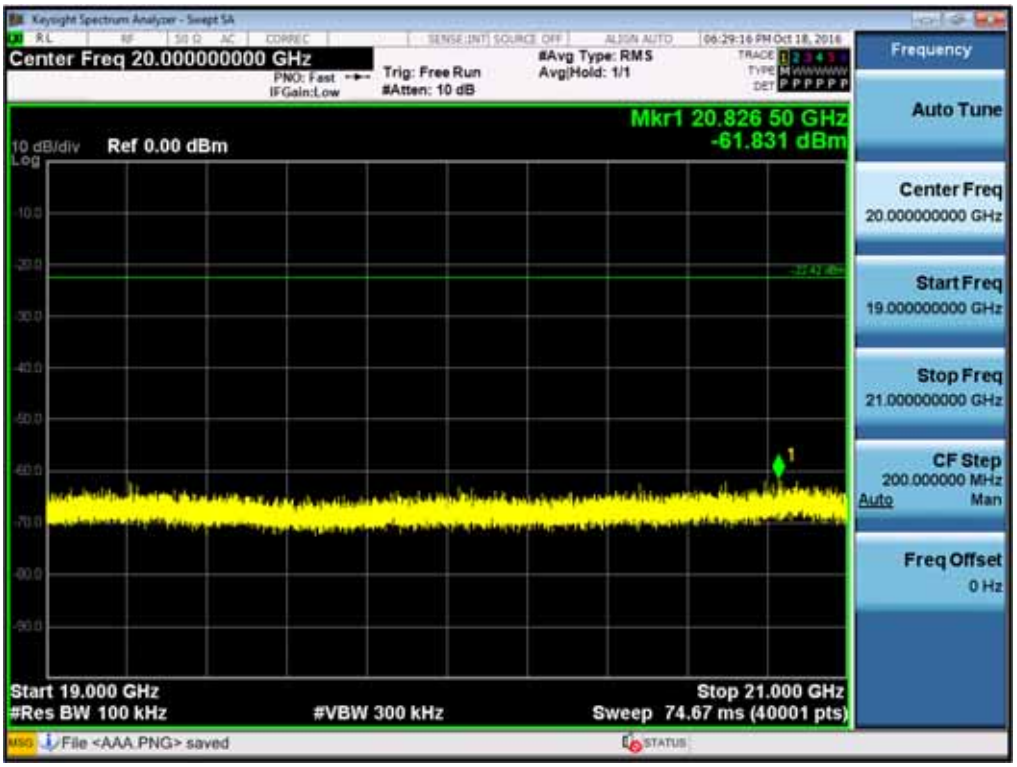
[Low channel - 15GHz ~ 17GHz]



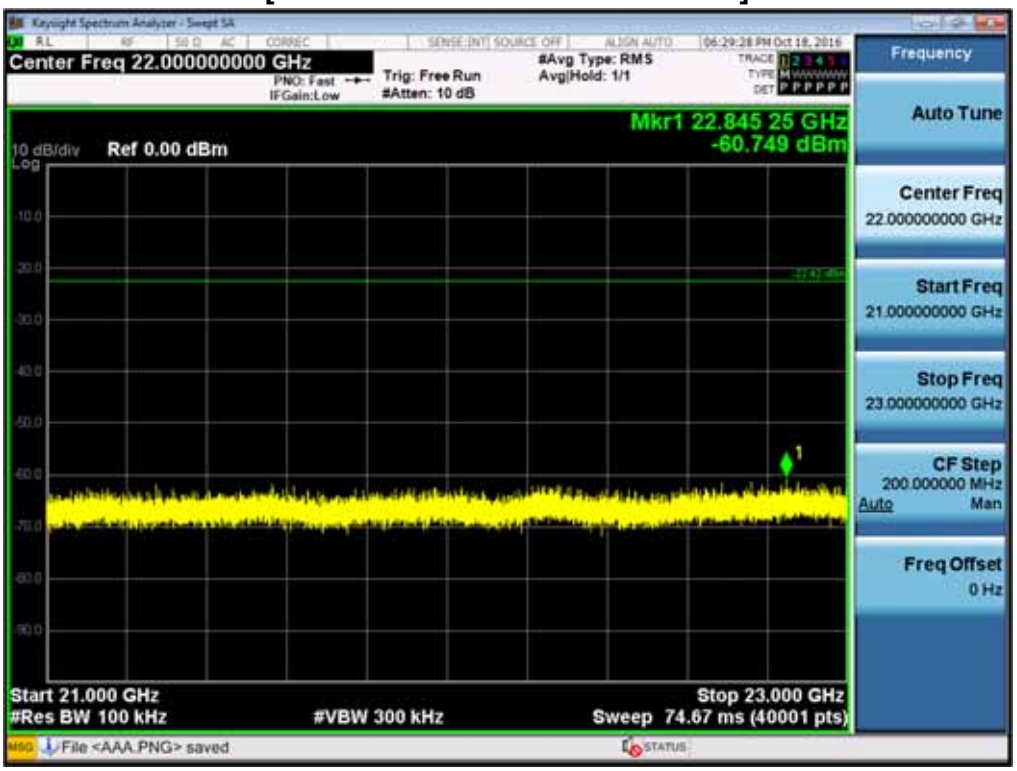
[Low channel - 17GHz ~ 19GHz]



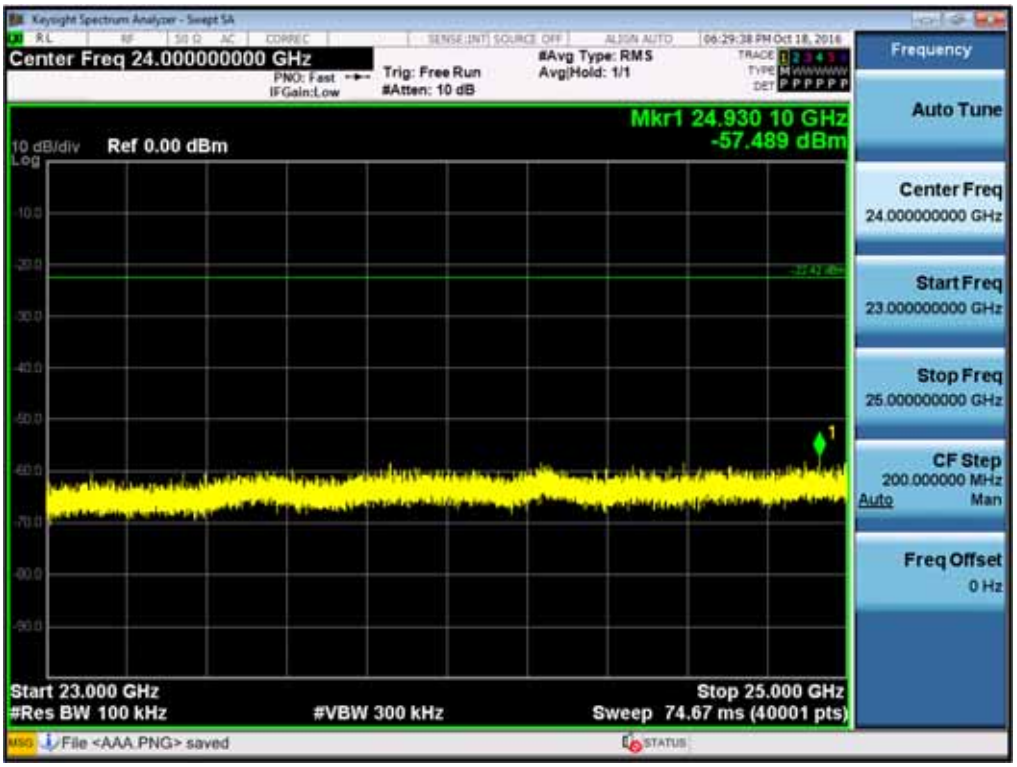
[Low channel - 19GHz ~ 21GHz]



[Low channel - 21GHz ~ 23GHz]

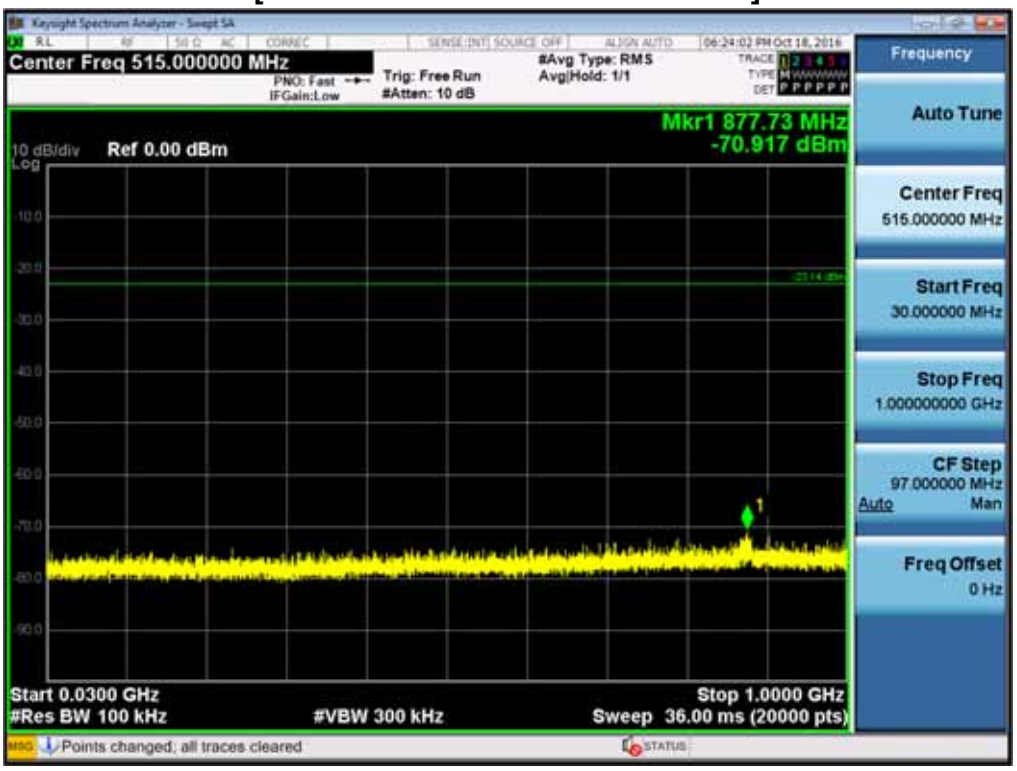


[Low channel - 23GHz ~ 25GHz]

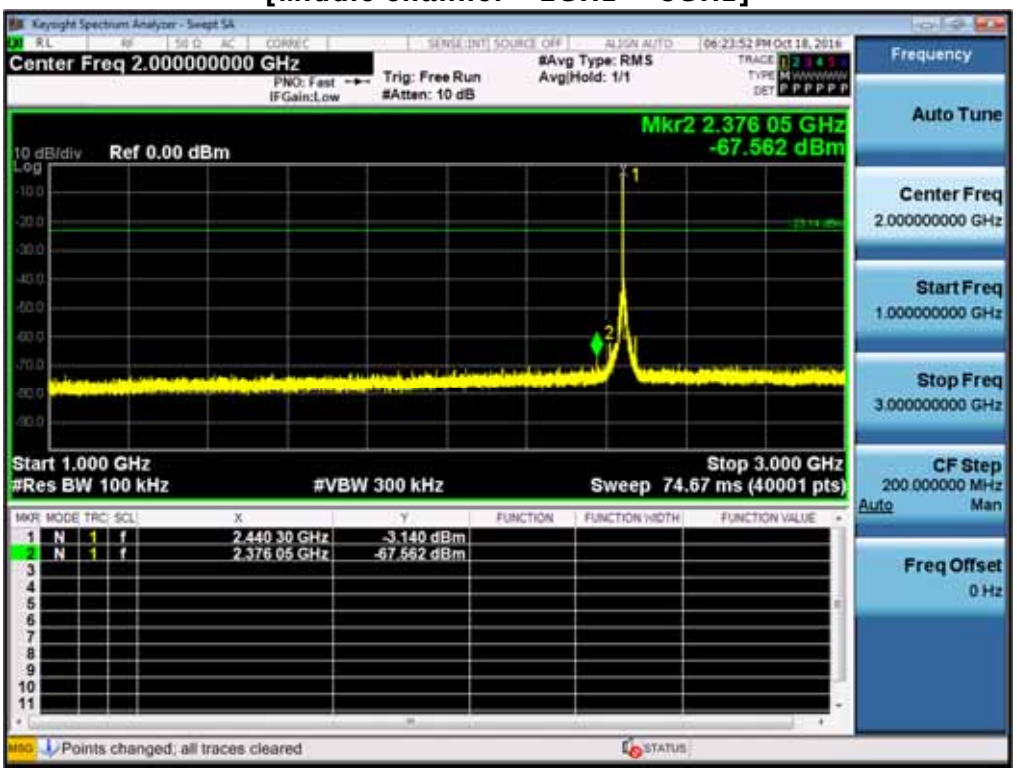


Middle channel (2 440 MHz)

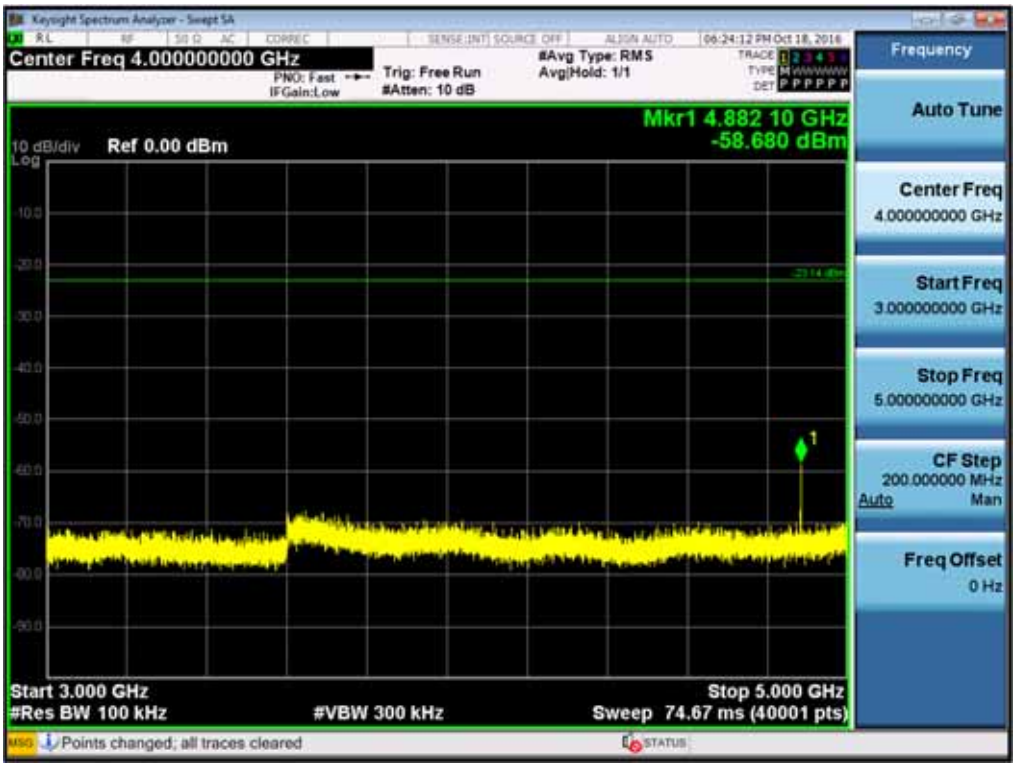
[Middle channel - 30MHz ~ 1GHz]



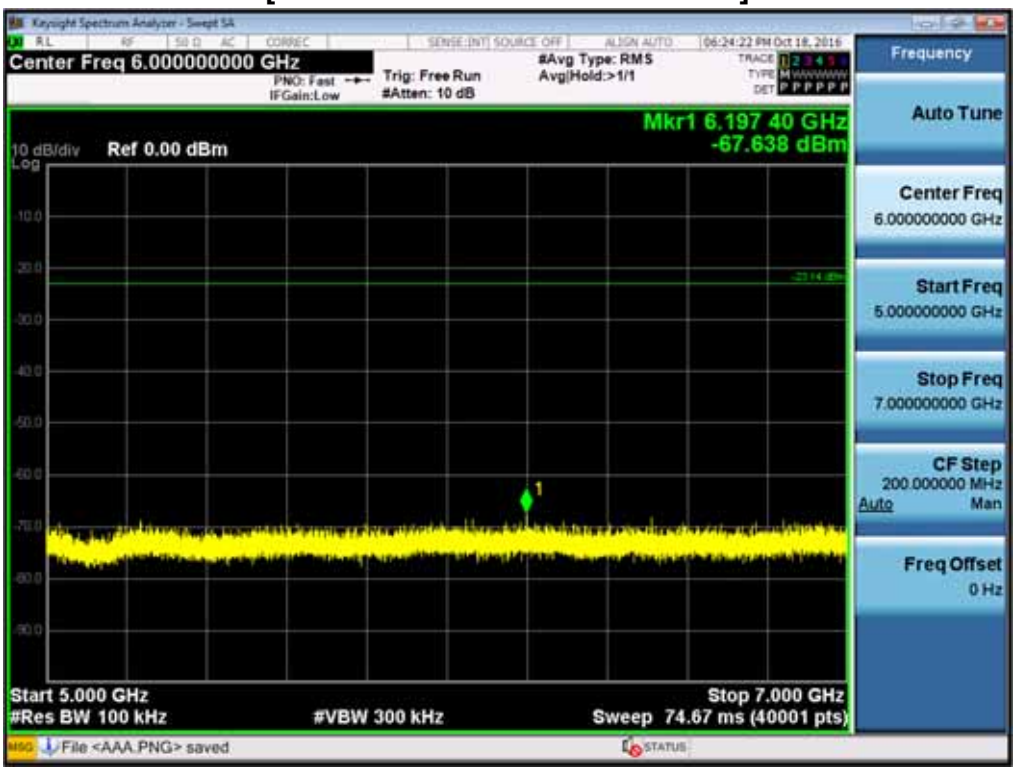
[Middle channel - 1GHz ~ 3GHz]



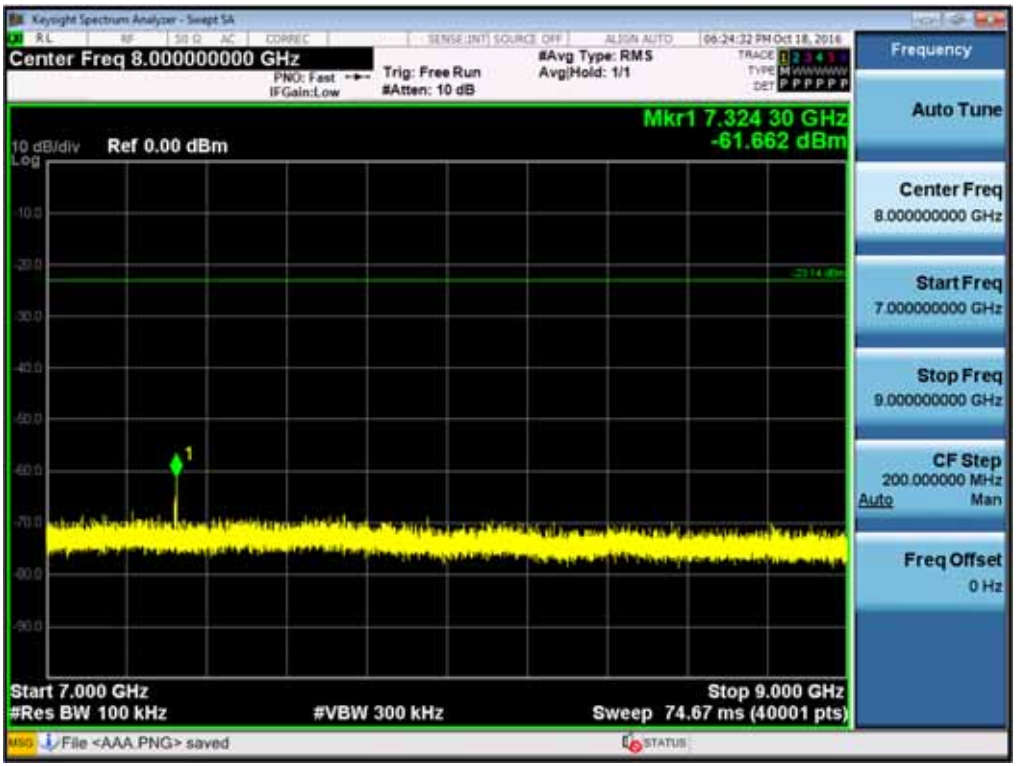
[Middle channel - 3GHz ~ 5GHz]



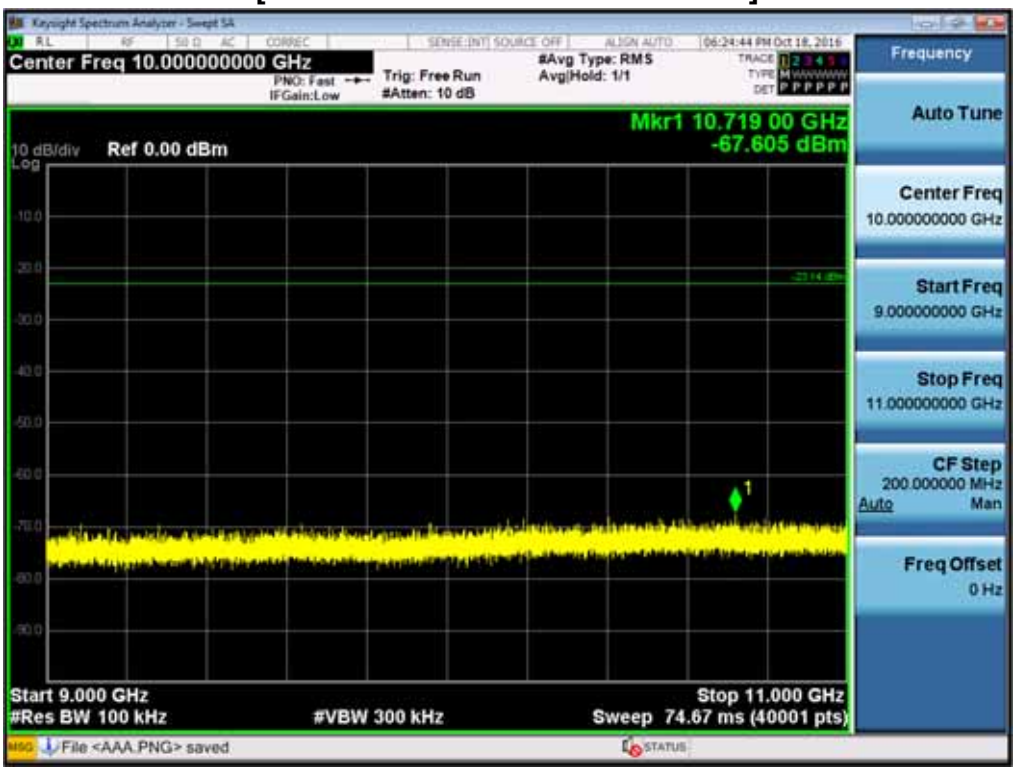
[Middle channel - 5GHz ~ 7GHz]



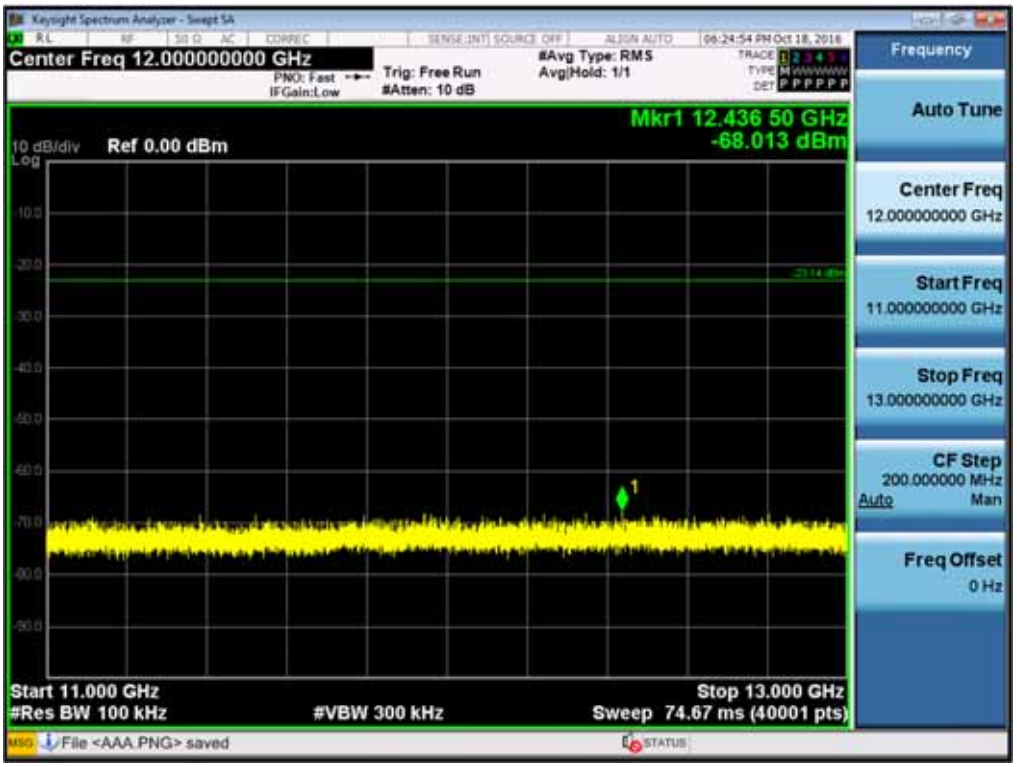
[Middle channel - 7GHz ~ 9GHz]



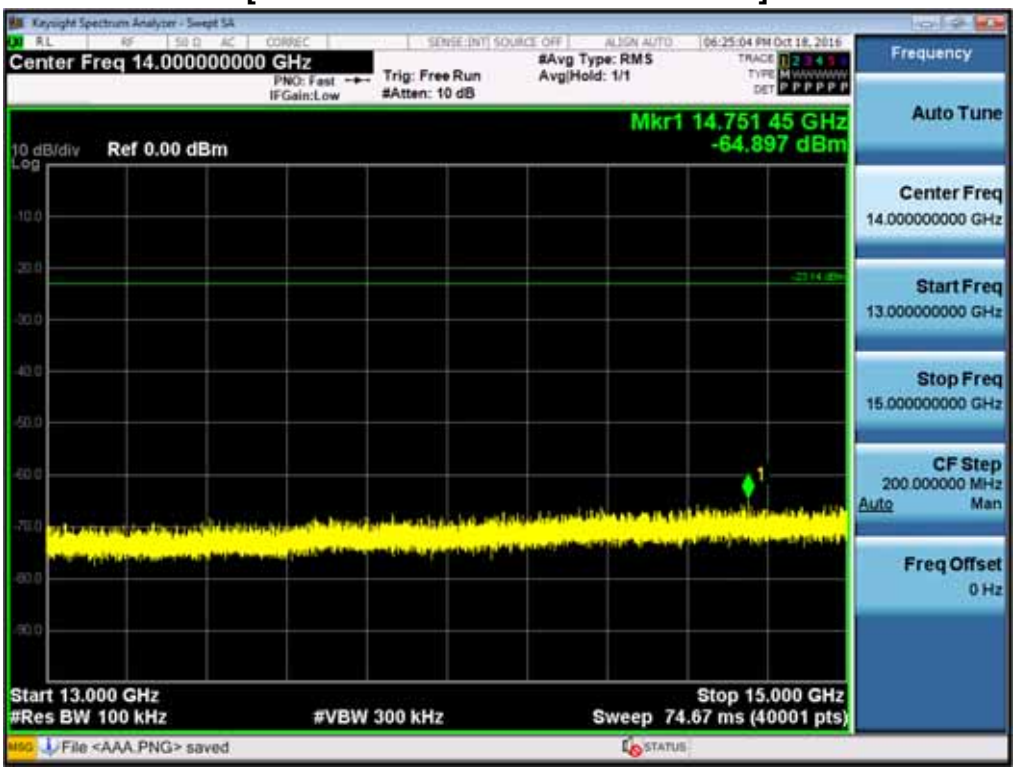
[Middle channel - 9GHz ~ 11GHz]



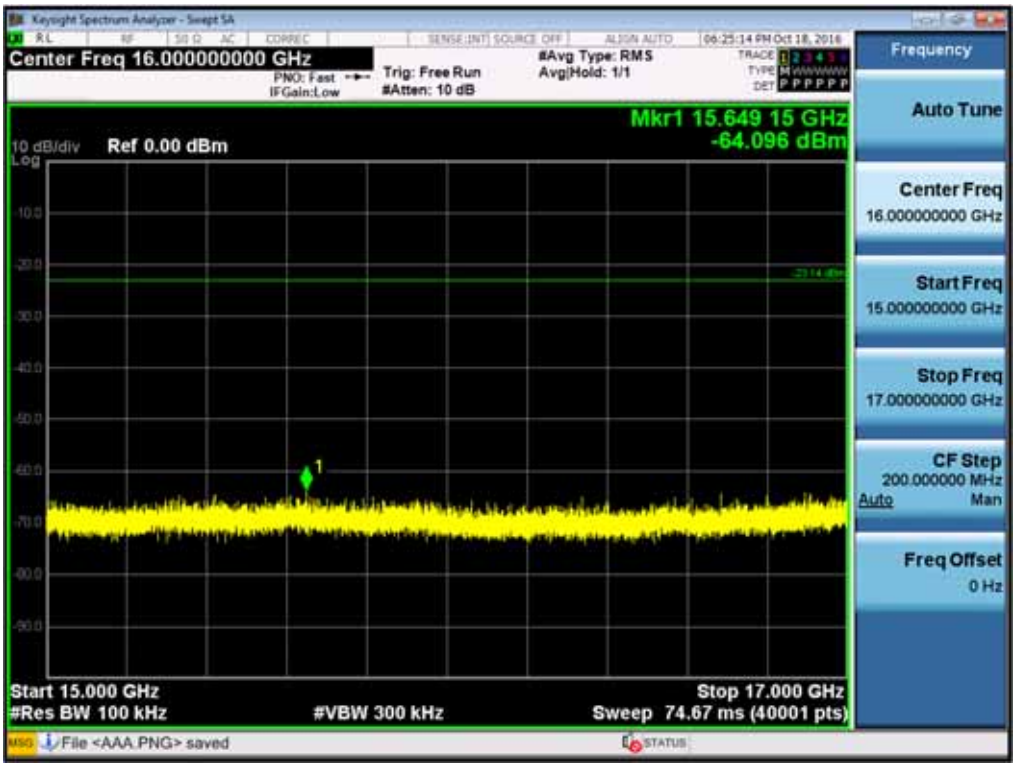
[Middle channel - 11GHz ~ 13GHz]



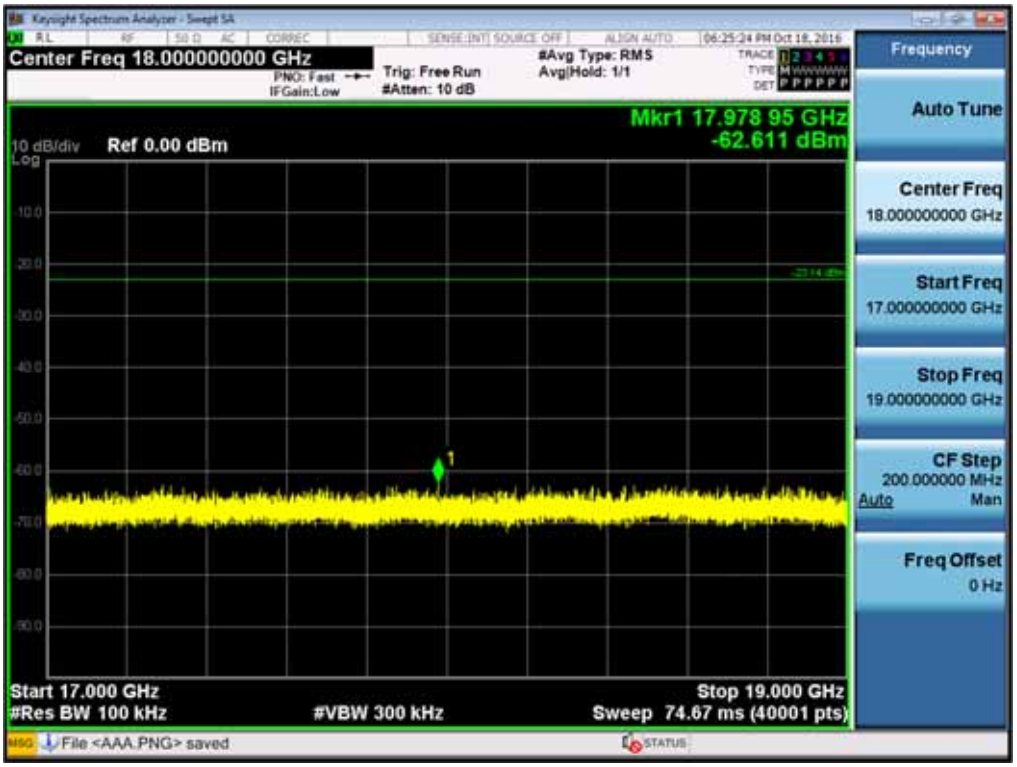
[Middle channel - 13GHz ~ 15GHz]



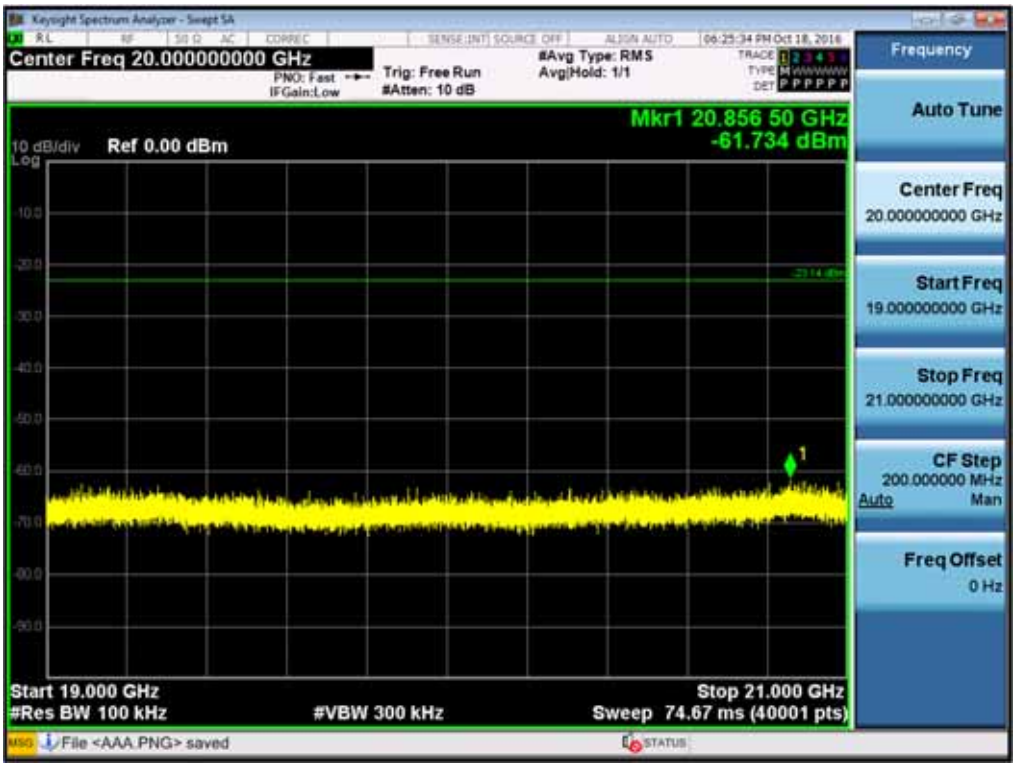
[Middle channel - 15GHz ~ 17GHz]



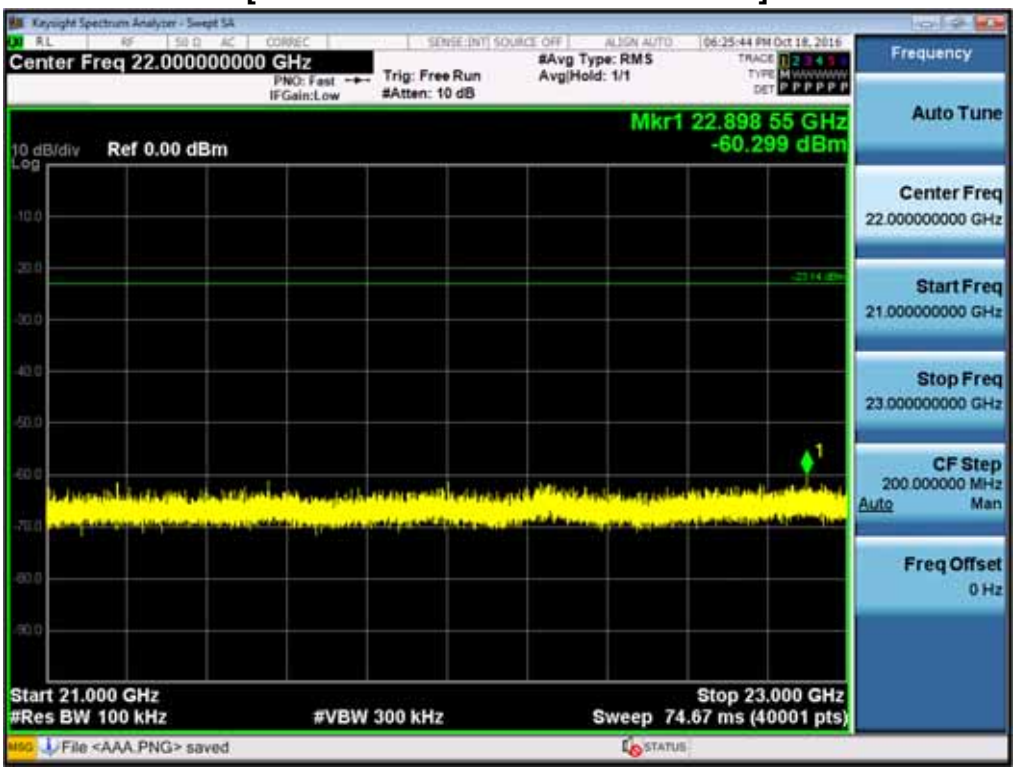
[Middle channel - 17GHz ~ 19GHz]



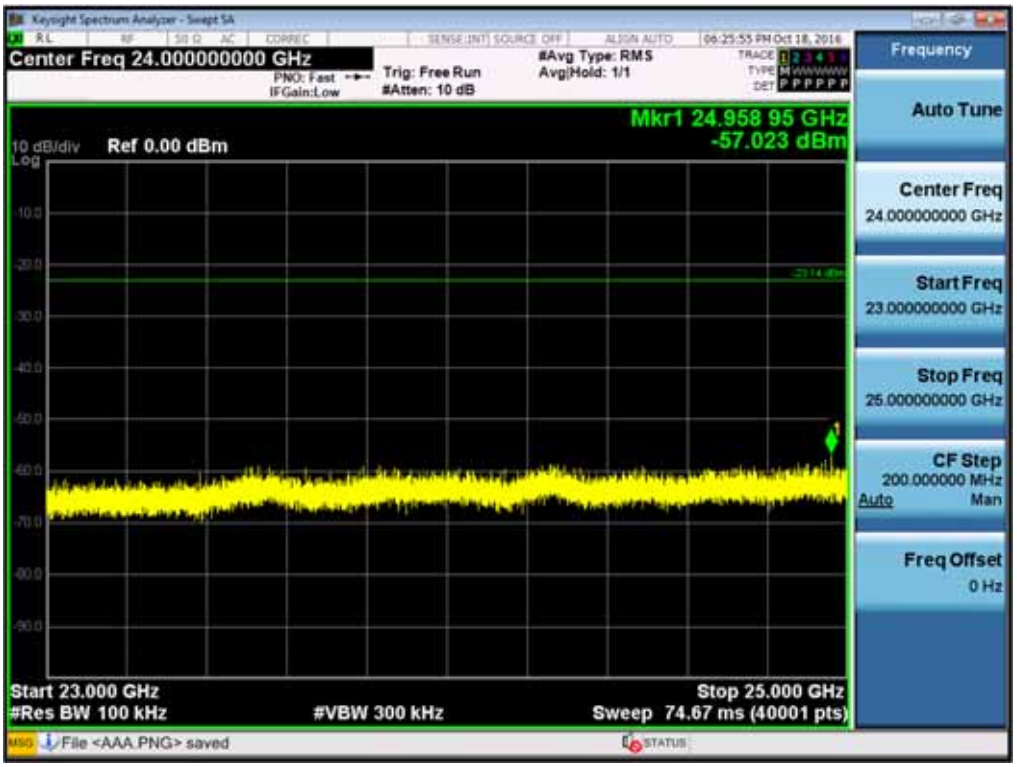
[Middle channel - 19GHz ~ 21GHz]



[Middle channel - 21GHz ~ 23GHz]

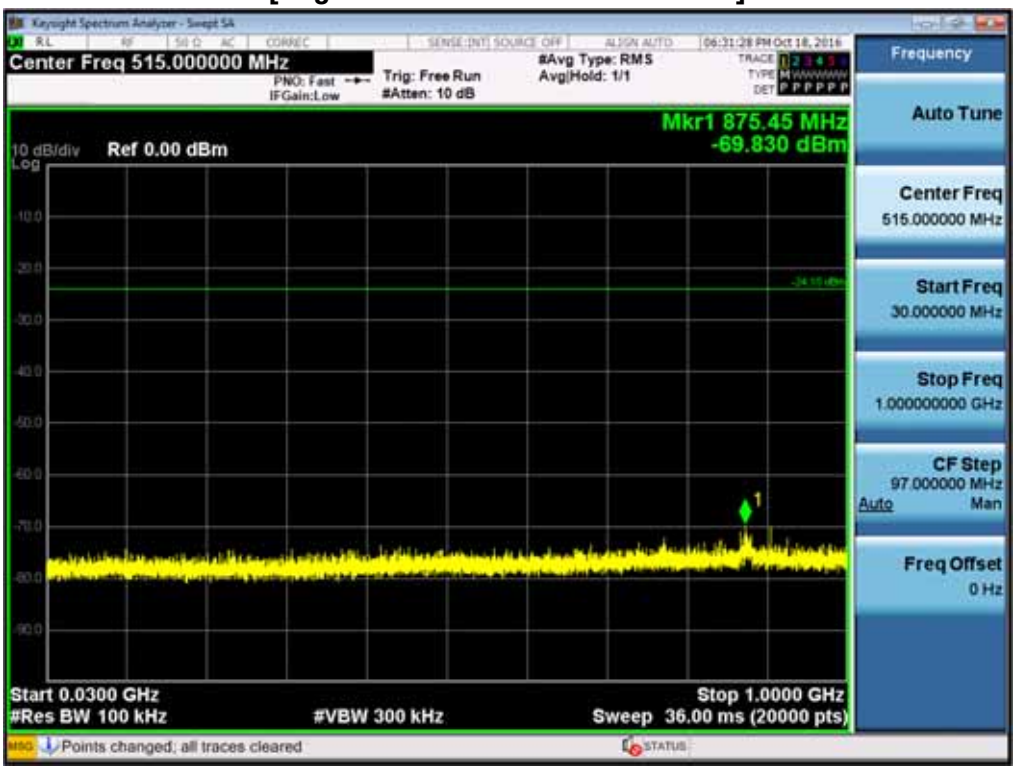


[Middle channel - 23GHz ~ 25GHz]

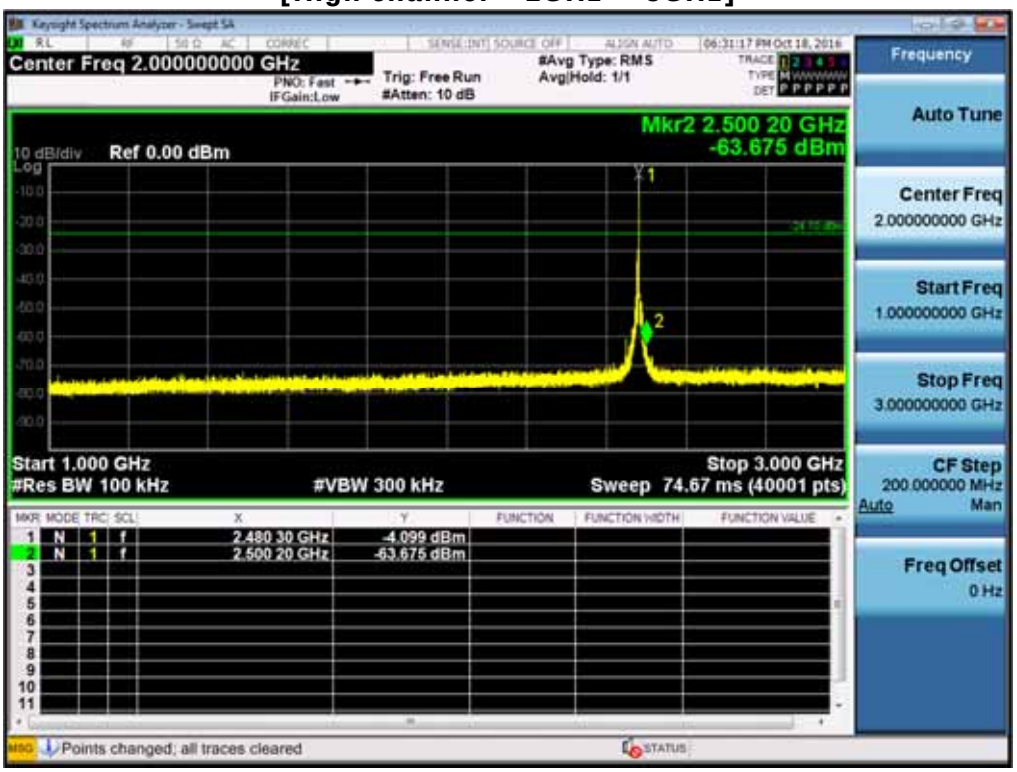


High channel (2 480 MHz)

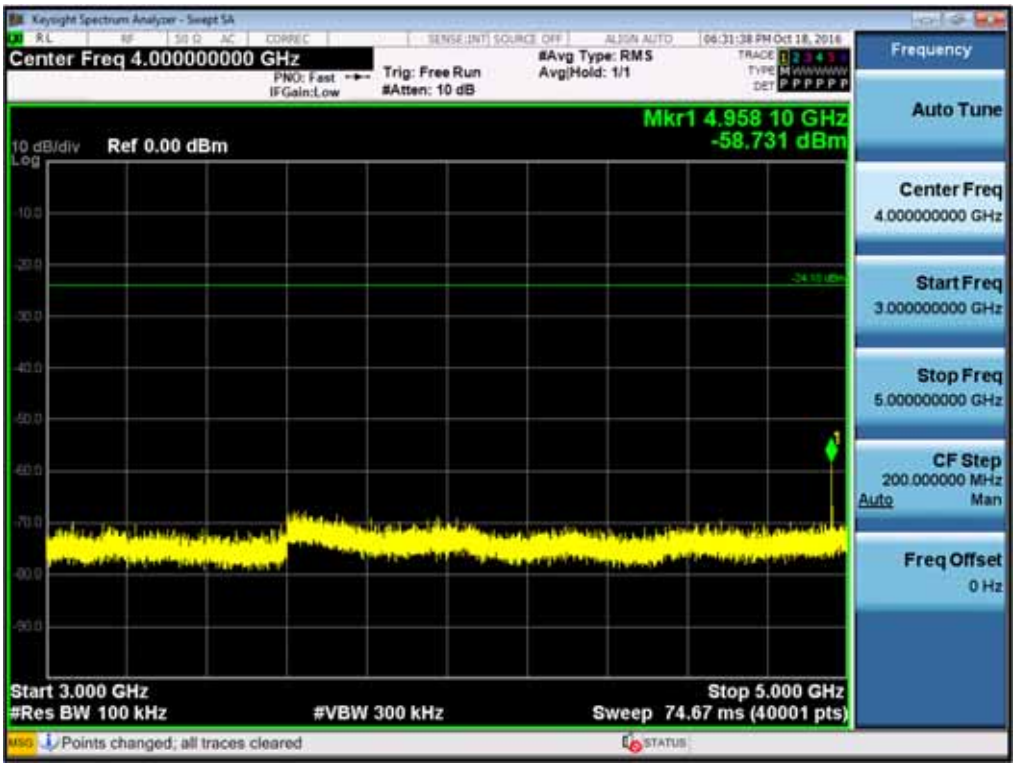
[High channel - 30MHz ~ 1GHz]



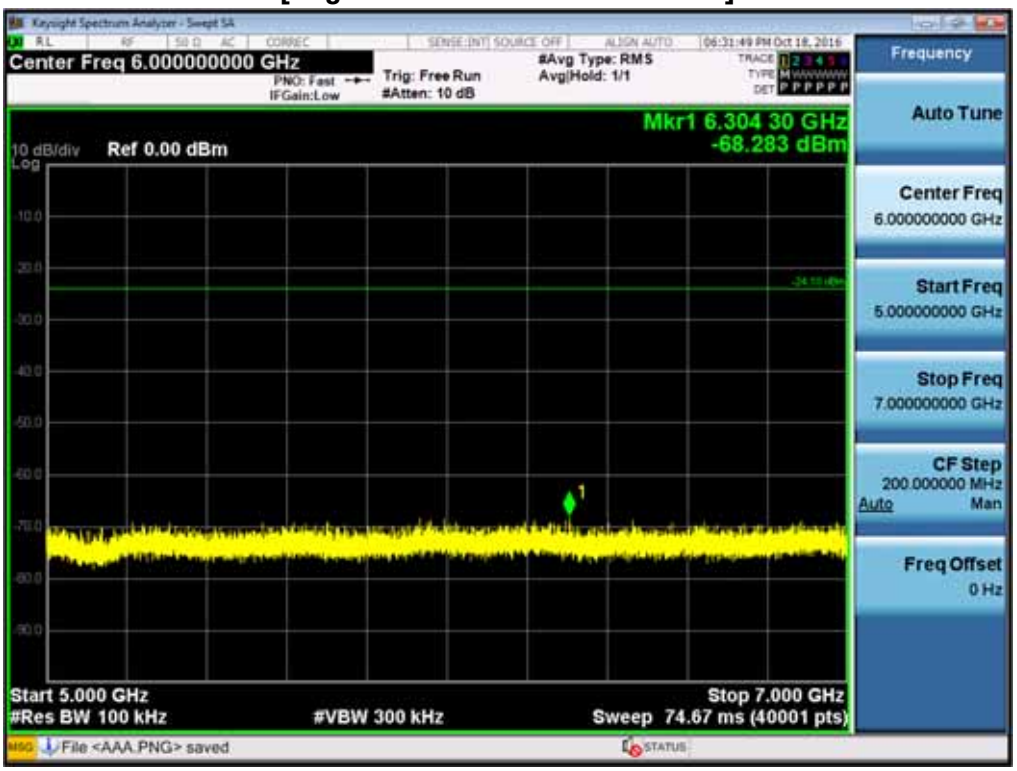
[High channel - 1GHz ~ 3GHz]



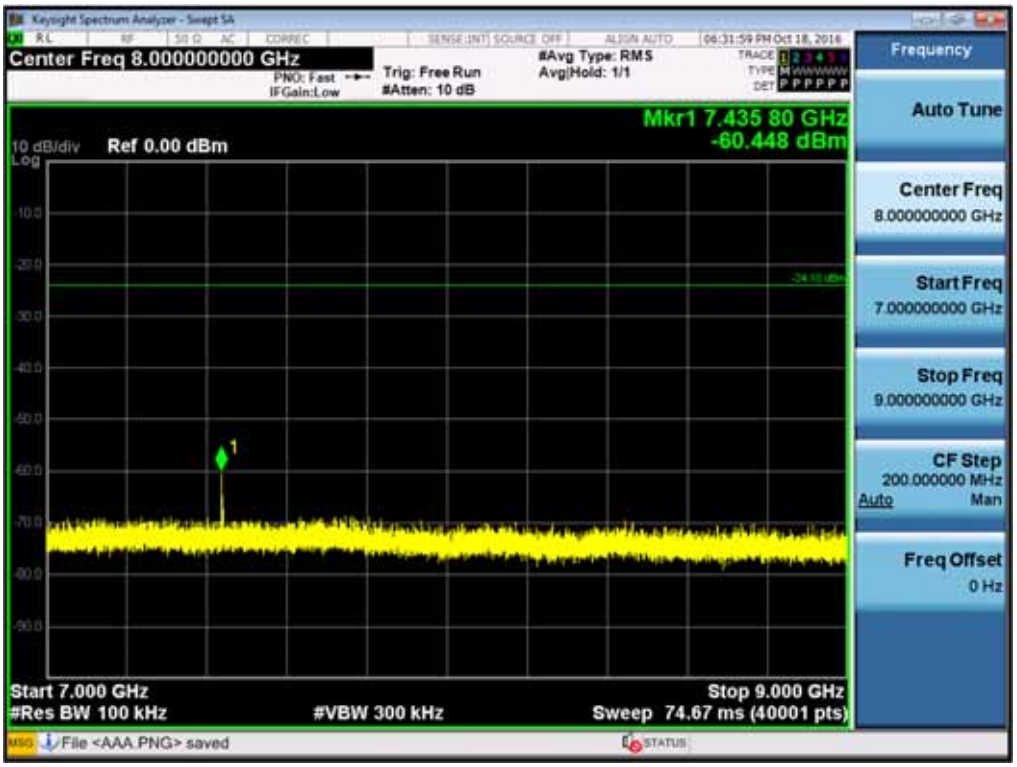
[High channel - 3GHz ~ 5GHz]



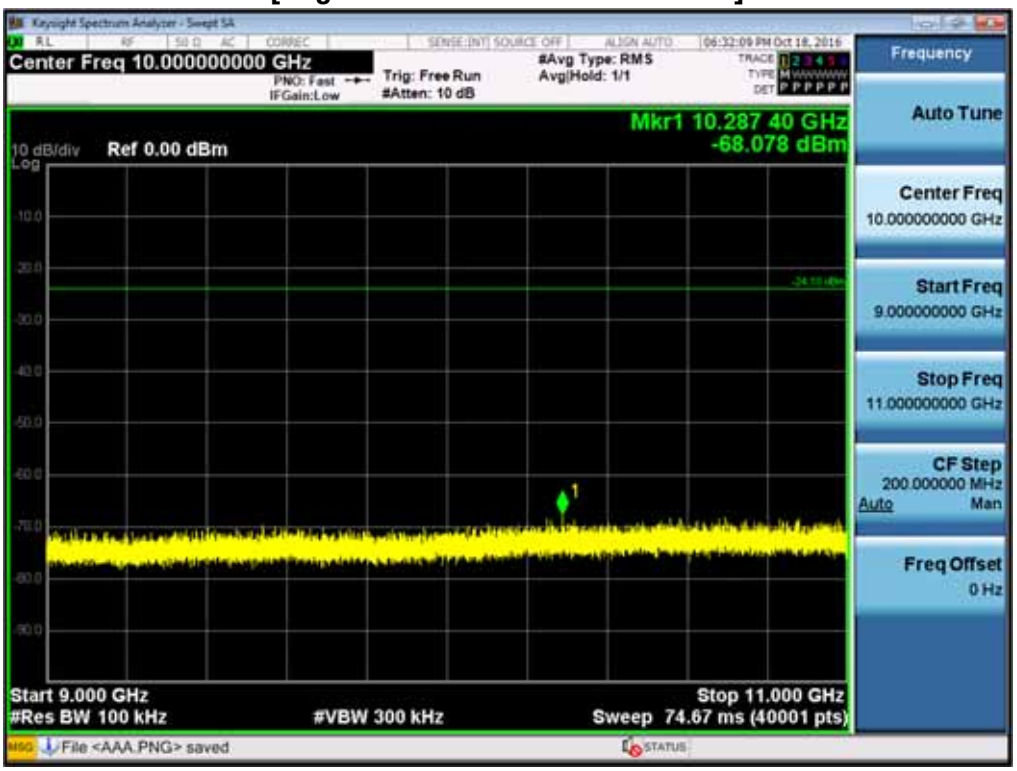
[High channel - 5GHz ~ 7GHz]



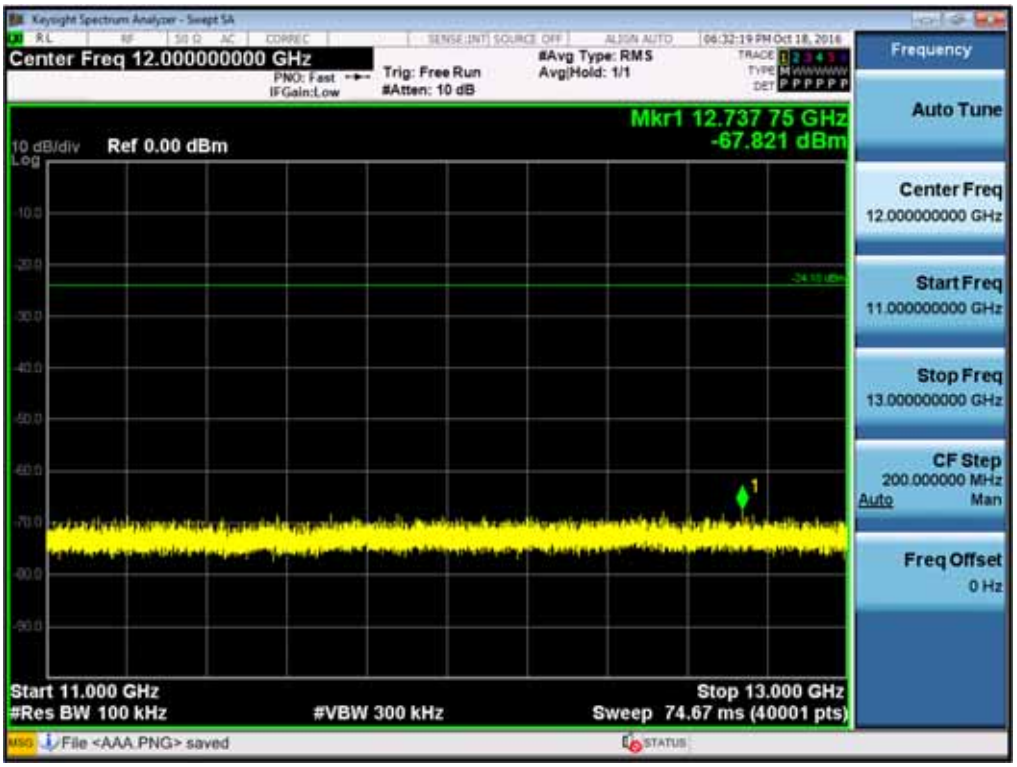
[High channel - 7GHz ~ 9GHz]



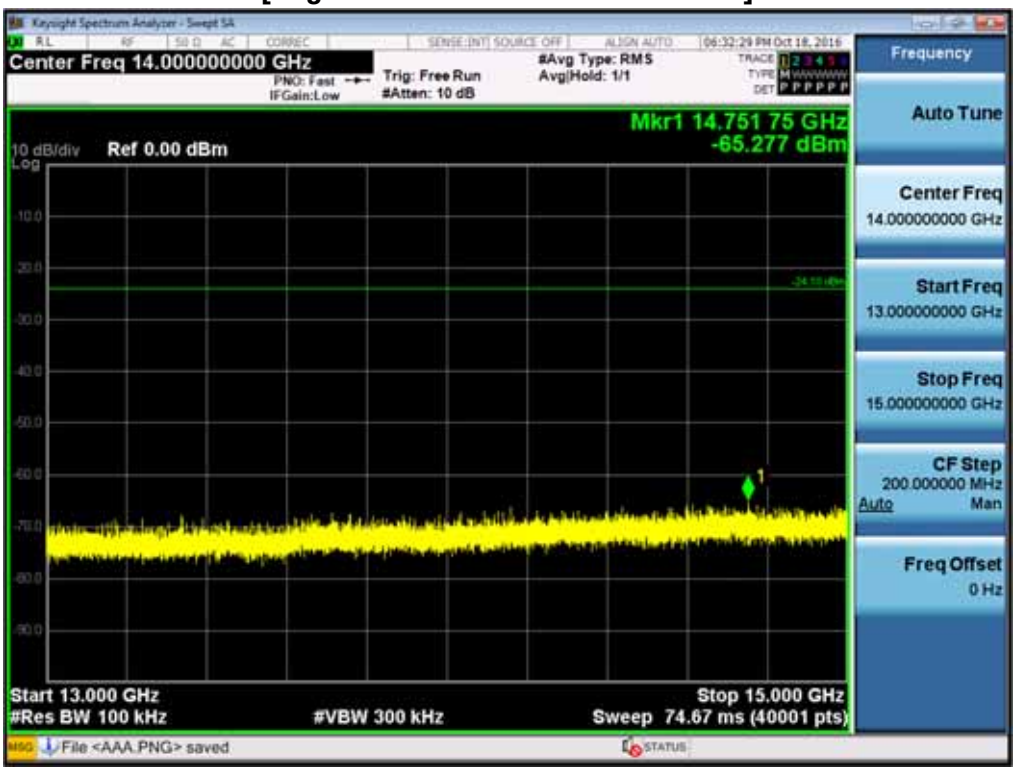
[High channel - 9GHz ~ 11GHz]



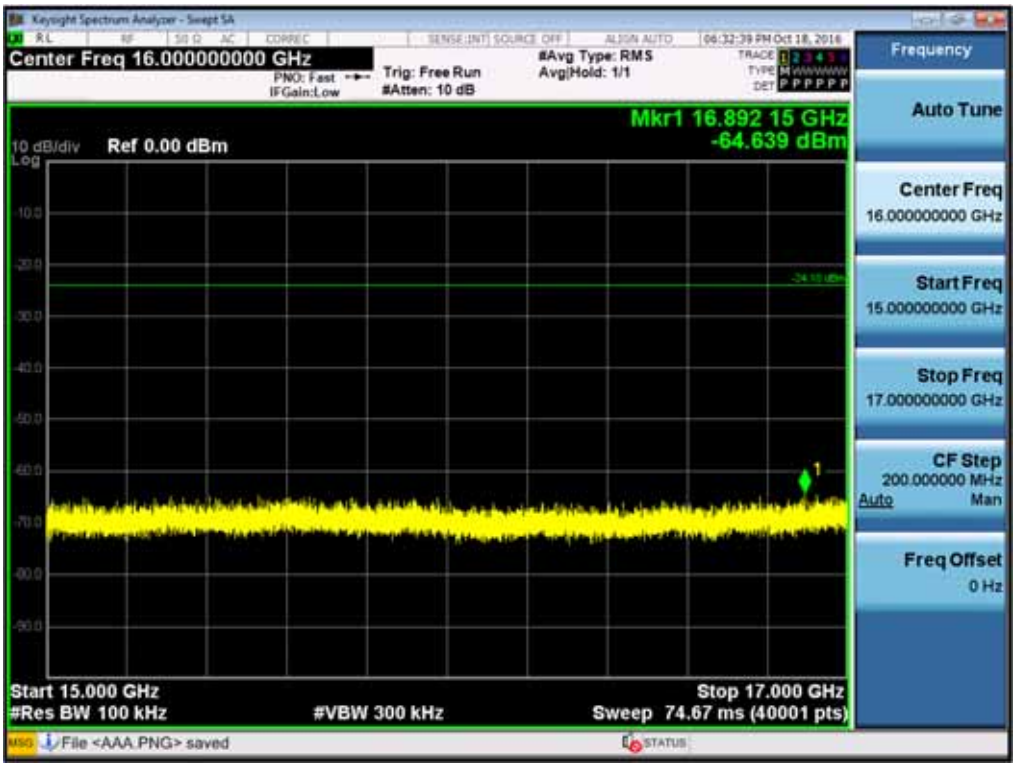
[High channel - 11GHz ~ 13GHz]



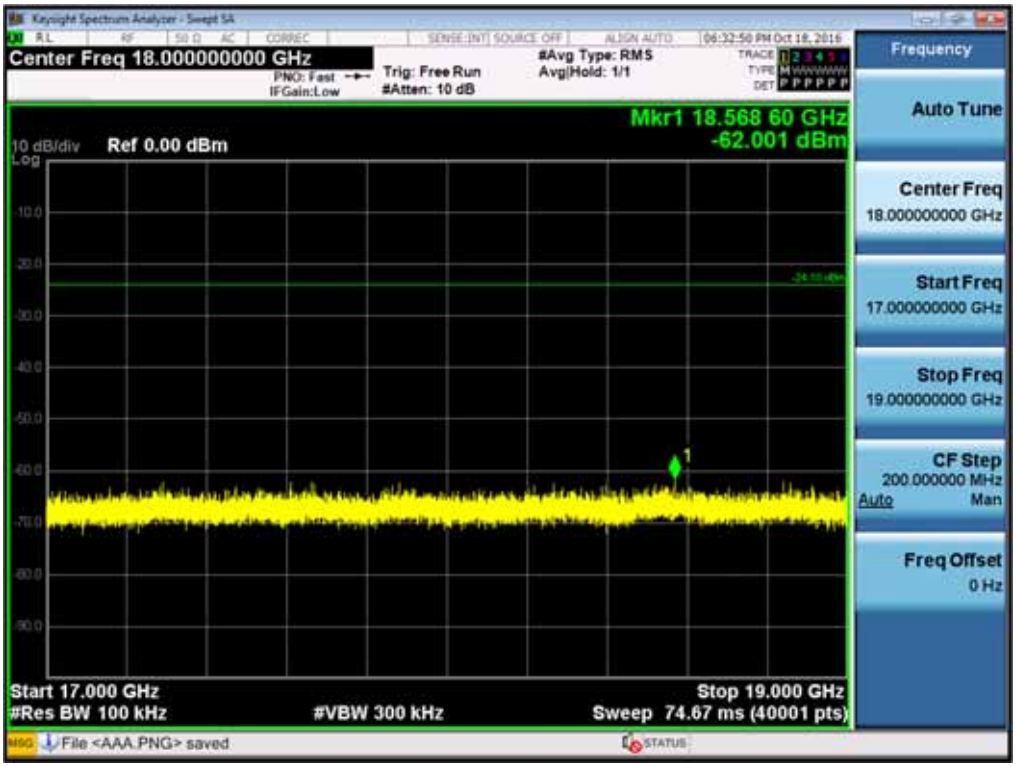
[High channel - 13GHz ~ 15GHz]



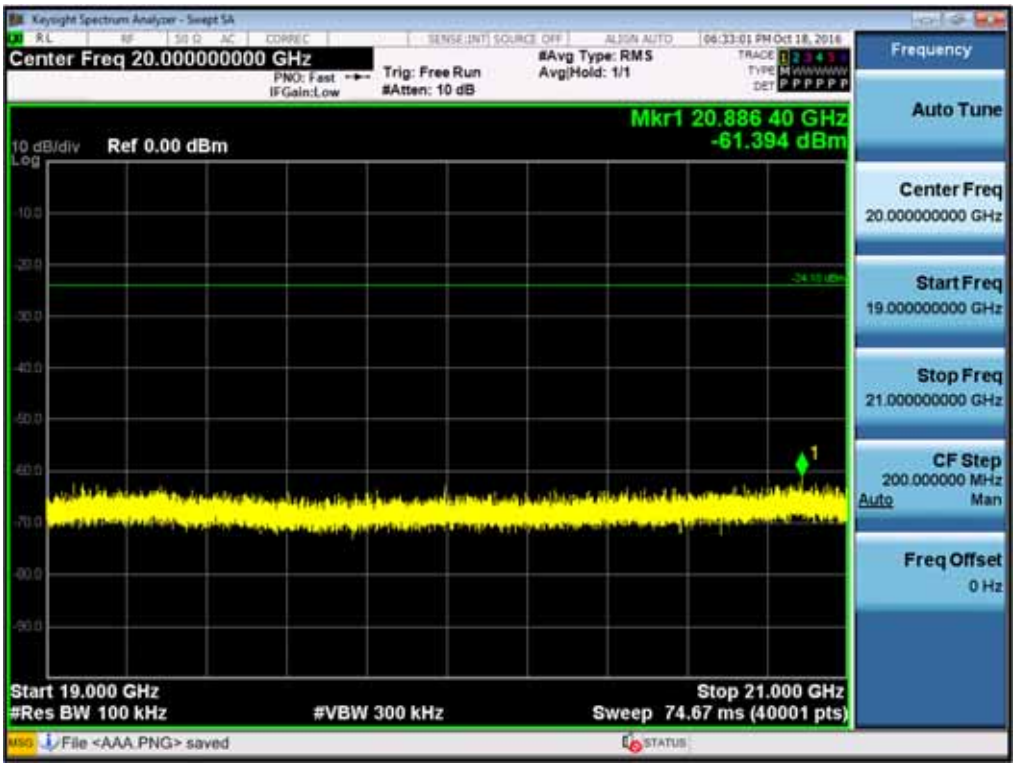
[High channel - 15GHz ~ 17GHz]



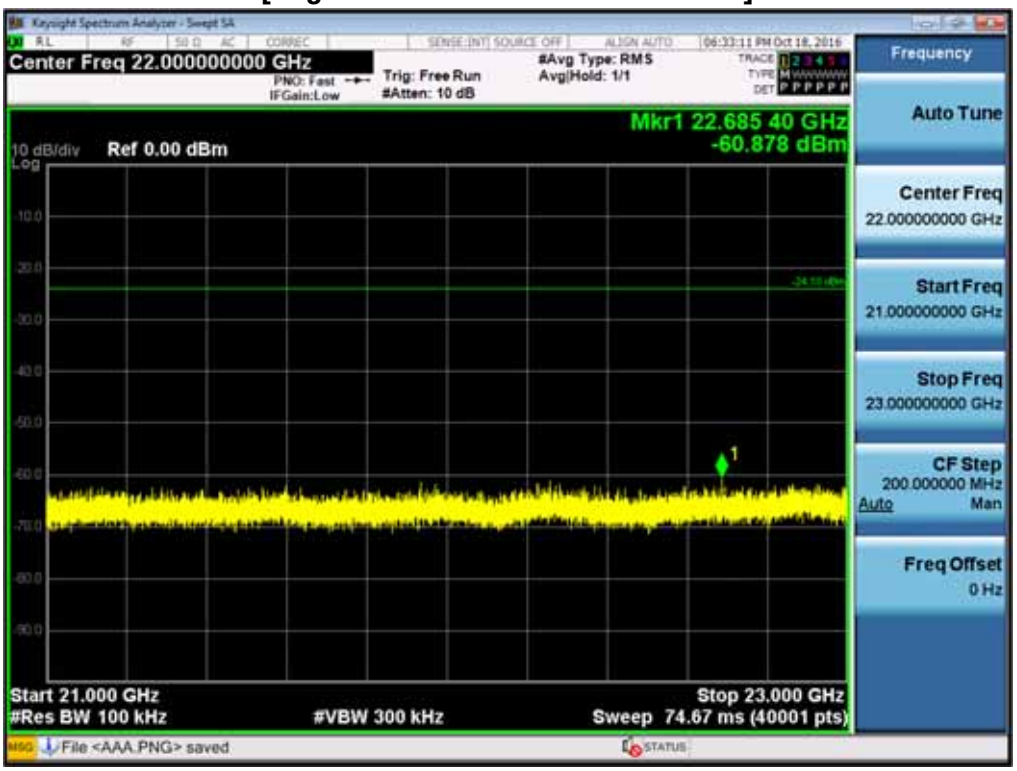
[High channel - 17GHz ~ 19GHz]



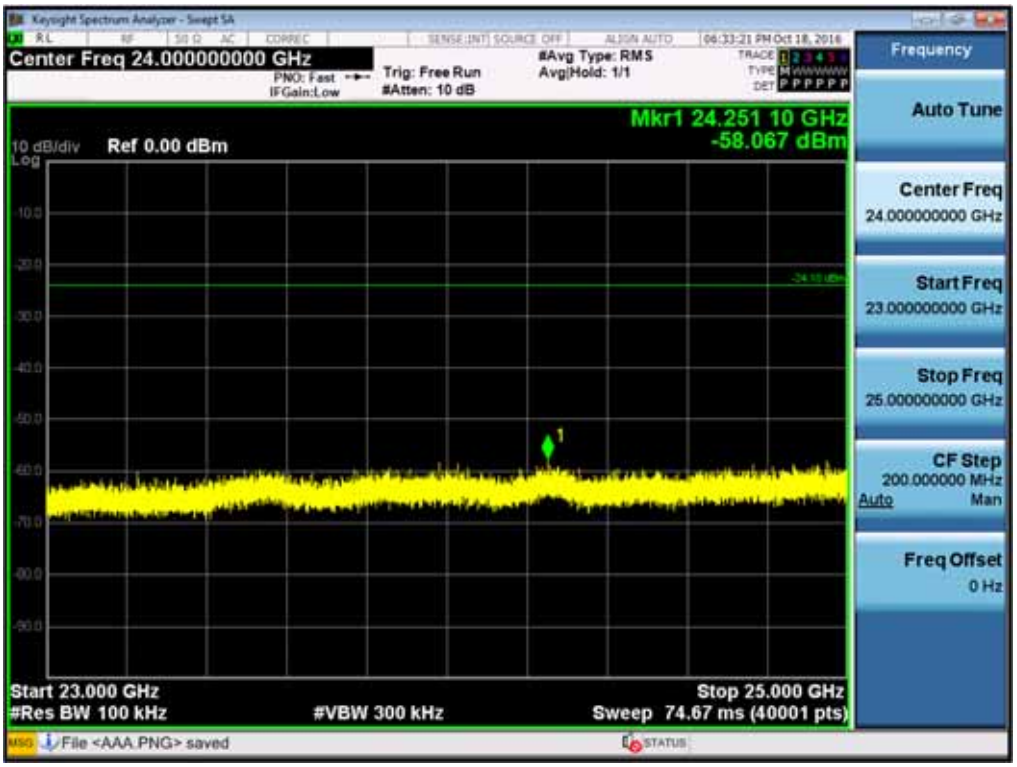
[High channel - 19GHz ~ 21GHz]



[High channel - 21GHz ~ 23GHz]



[High channel - 23GHz ~ 25GHz]



2.1.5 Unwanted emission (Radiated)

Test Location

☒ 10 m SAC (test distance : ☐ 10 m, ☒ 3 m)
☒ 3 m SAC (test distance : 3 m)

Test Procedures

1) In the frequency range of 9 kHz to 30 MHz, magnetic field is measured with Loop Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
2) In the frequency rage above 30 MHz, Bi-Log Test Antenna(30 MHz to 1 GHz) and Horn Test Antenna(above 1 GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is carried from 1m to 4m above the ground to determine the maximum value of the field strength. The emissions levels at both horizontal and vertical polarizations should be tested.

The spectrum analyzer is set to:

Frequency Range = 9 kHz ~ 25 GHz (2.4 GHz 10^{th} harmonic)
RBW = 1 MHz for f ≥ 1 GHz, 100 kHz for f < 1 GHz, 9 kHz for f < 30 MHz
VBW ≥ RBW
Sweep = auto

Limit

FCC Part 15 § 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	MHz	MHz	GHz
0.09-0.11	8.37626-8.38675	73-74.6	399.9-410	2690-2900	10.6-12.7
[1]0.495-0.505	8.41425-8.41475	74.8-75.2	608-614	3260-3267	13.25-13.4
2.1735-2.1905	12.29-12.293	108-121.94	960-1240	3332-3339	14.47-14.5
4.125-4.128	12.51975-12.52025	123-138	1300-1427	3345.8-3358	15.35-16.2
4.17725-4.17775	12.57675-12.57725	149.9-150.05	1435-1626.5	3600-4400	17.7-21.4
4.20725-4.20775	13.36-13.41	156.52475-156.52525	1645.5-1646.5	4500-5150	22.01-23.12
6.215-6.218	16.42-16.423	156.7-156.9	1660-1710	5350-5460	23.6-24
6.26775-6.26825	16.69475-16.69525	162.0125-167.17	1718.8-1722.2	7250-7750	31.2-31.8
6.31175-6.31225	16.80425-16.80475	167.72-173.2	2200-2300	8025-8500	36.43-36.5
8.291-8.294	25.5-25.67	240-285	2310-2390	9000-9200	[2]Above 38.6
8.362-8.366	37.5-38.25	322-335.4	2483.5-2500	9300-9500	

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

§ 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown is Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

FCC Part 15 § 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 :

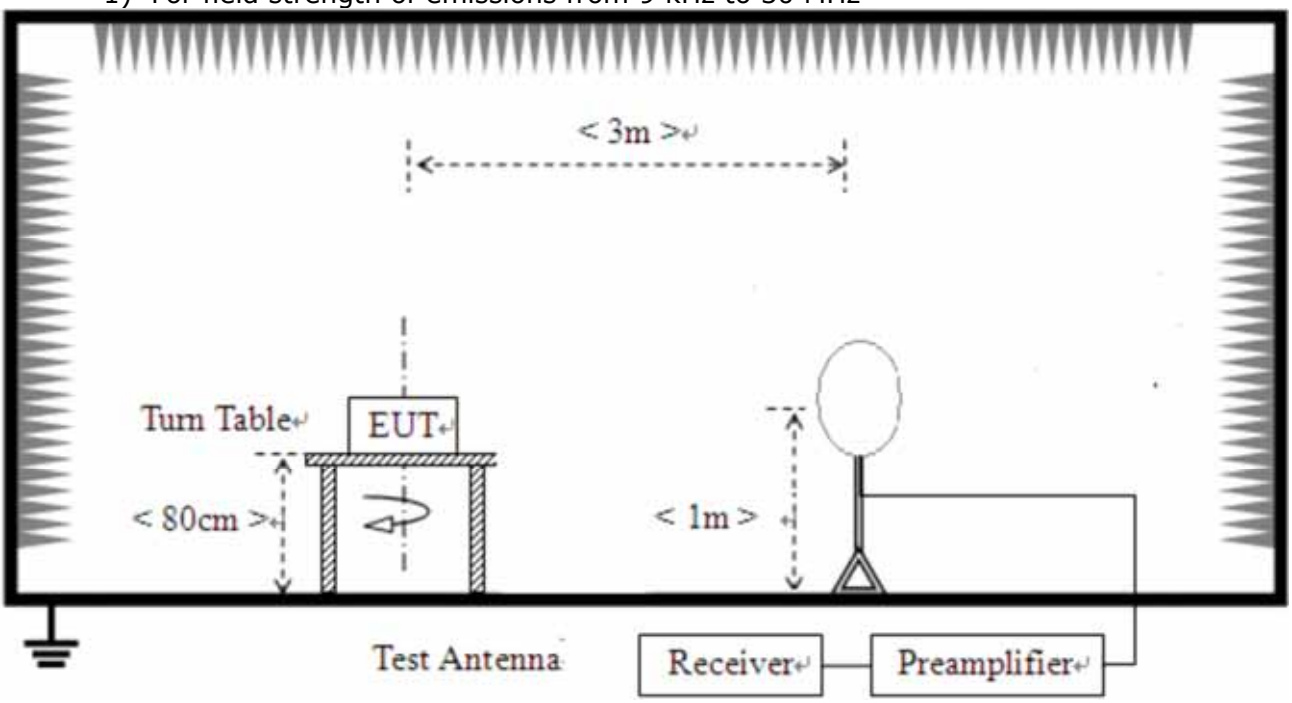
Frequency(MHz)	Field Strength uV/m@3m	Field Strength dBuV/m@3m	Deasurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705-30	30	-	30
30-88	100**	40	3
88-216	150**	43.5	3
216-960	200**	46	3
Above 960	500	54	3

** Except as provided in 15.209(g).fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72MHz, 76-88MHz, 174-216MHz, 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g.15.231 and 15.241.

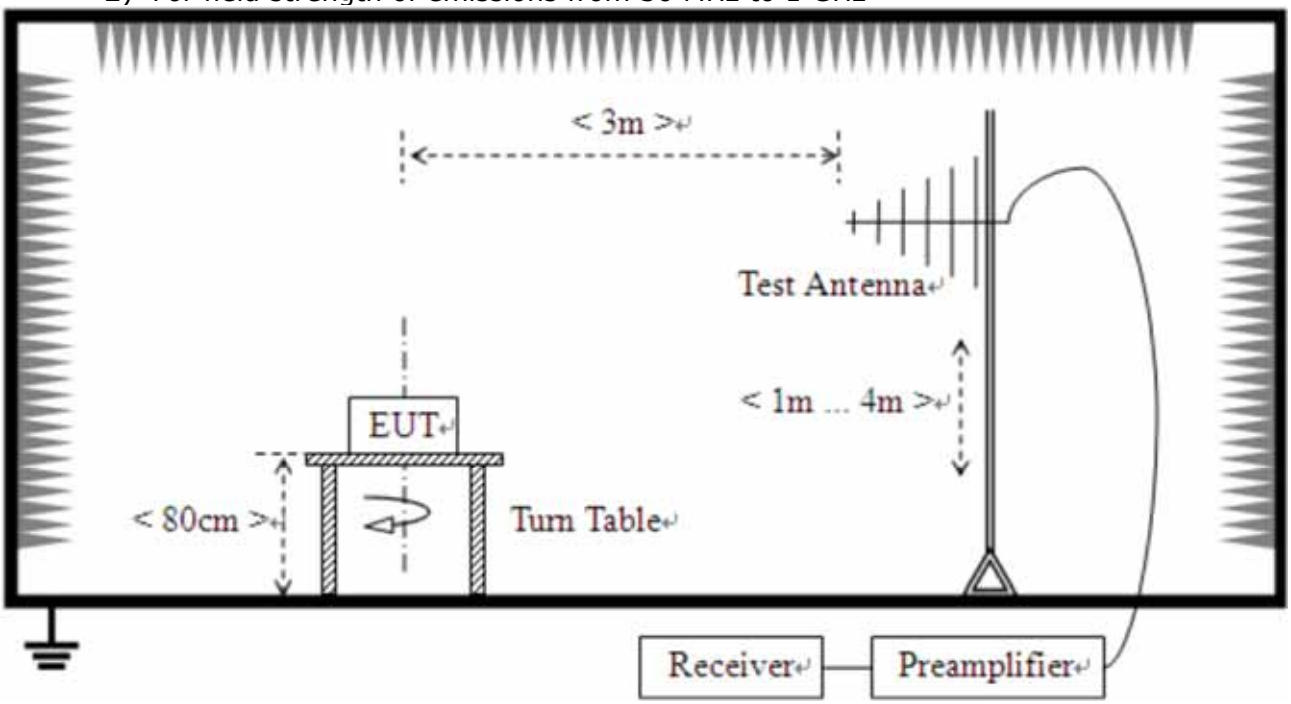
Note :
1) For above 1 GHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
2) For above 1 GHz, limit field strength of harmonics : 54 dBuV/m@3m (AV) and 74 dBuV/m@3m (PK)
3) For measurement above 1GHz, the resolution bandwidth is set to 1 MHz and video bandwidth is set to 1 MHz for peak measurement and 10 Hz for average measurement.(Duty Cycle is > 98%,)
4) Duty Cycle is < 98%, VBW setting will need to > 1/T.

Test Setup:

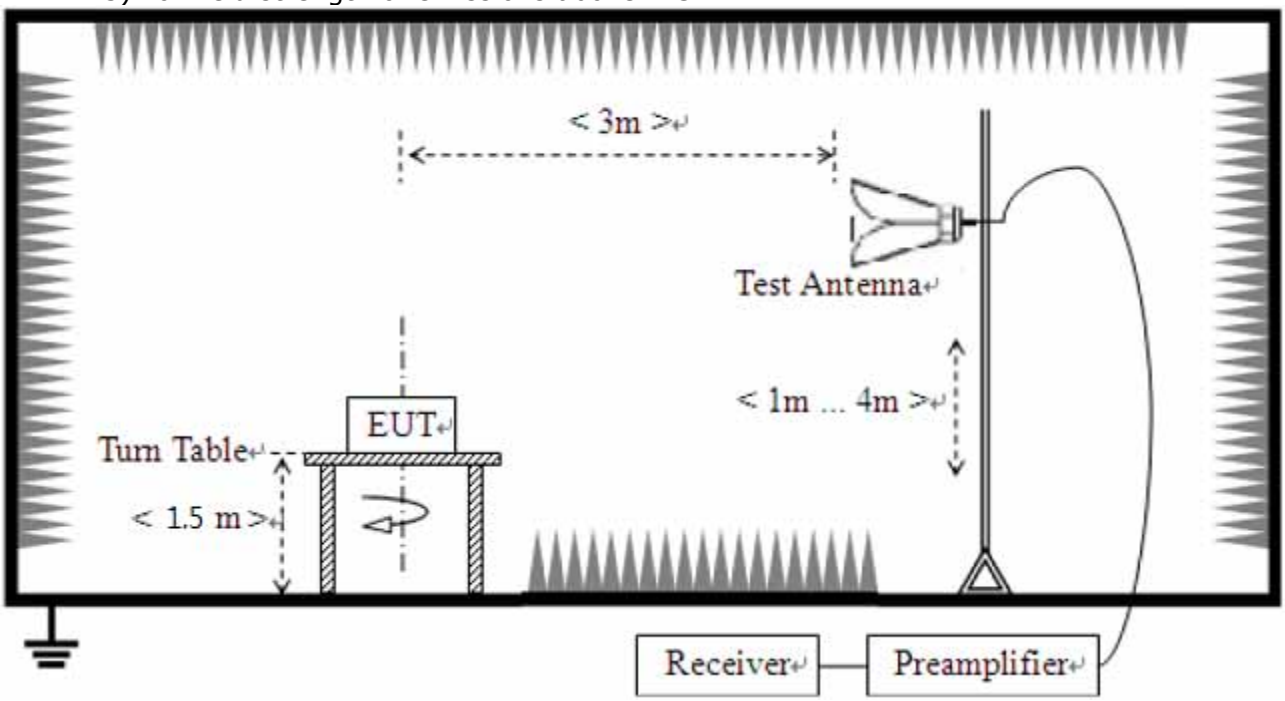
1) For field strength of emissions from 9 kHz to 30 MHz



2) For field strength of emissions from 30 MHz to 1 GHz



3) For field strength of emissions above 1 GHz



Test Results

1) 9 kHz to 30 MHz

EUT	BLE Dongle	Measurement Detail	
Model	IDB-02S	Frequency Range	9 kHz – 30 MHz
Test mode	Continuous modulated carrier	Detector function	Quasi-Peak

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
-	-	-	See note

Note :
The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor = 40 log (specific distance / test distance) (dB)

2) 30 MHz to 1 GHz

Test mode : Transmit, Low Channel(Worst case)

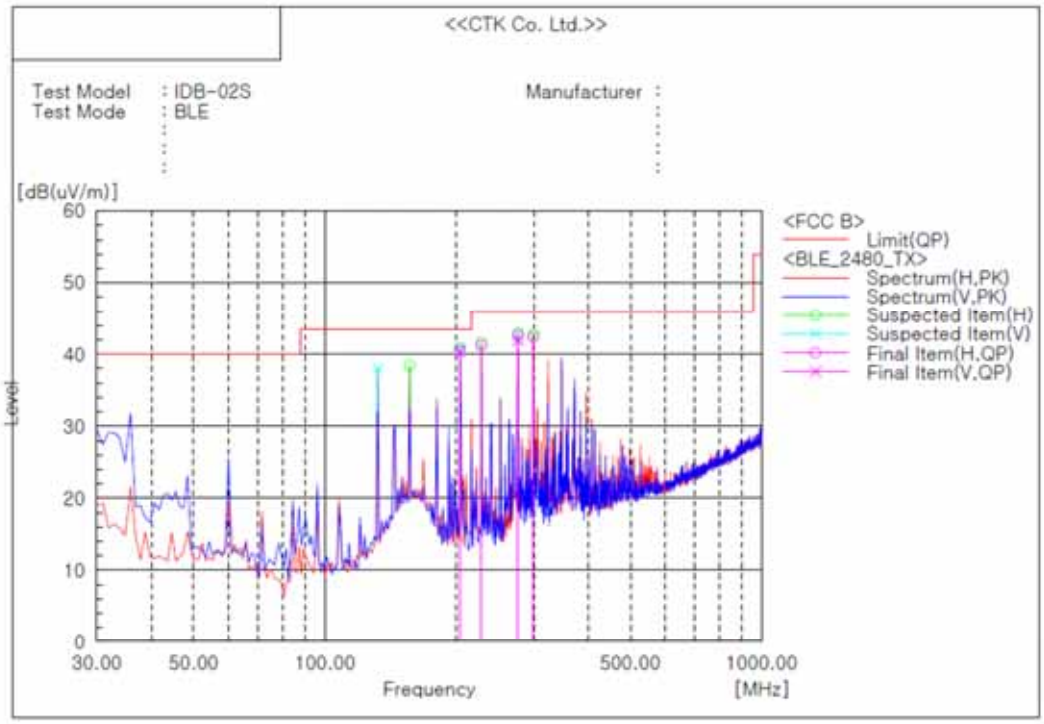
EUT	BLE Dongle	Measurement Detail	
Model	IDB-02S	Frequency Range	Below 1 000MHz
Mode	Transmit, Low Channel	Detector function	Quasi-Peak

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
203.63	40.5	3.0	-

Test Data



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]
1	203.630	H	54.9	-14.4	40.5	43.5	3.0	204.5
2	203.630	V	54.8	-14.4	40.4	43.5	3.1	357.1
3	276.380	H	55.0	-12.4	42.6	46.0	3.4	280.6
4	299.660	H	53.9	-11.5	42.4	46.0	3.6	311.1
5	276.380	V	54.3	-12.4	41.9	46.0	4.1	55.6
6	227.880	H	55.2	-14.0	41.2	46.0	4.8	97.7

Remark :
1. The Unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(Z axis) and the worst case was recorded.
2. Result = Reading + Correction factor
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator - Amp Gain

3) above 1 GHz

EUT	BLE Dongle	Measurement Detail	
Model	IDB-02S	Frequency Range	1-25GHz
Channel	Low (2 402 MHz)	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

☒ Complies

Test Data

[Transmit mode]

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Height [m]	Correction Factor Antenna + Amp. Gain + Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4806.09	46.8	50.2	H	1.5	4.1	54.0	74.0	50.9	54.3	3.1	19.7

Restricted band edge test data

Measured frequency range : 2 310 - 2 390 MHz

[Transmit mode]

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Height [m]	Correction Factor Antenna + Amp. Gain + Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2389.92	37.5	53.6	H	1.5	-2.6	54.0	74.0	34.9	51.0	19.1	23.0

EUT	BLE Dongle	Measurement Detail	
Model	IDB-02S	Frequency Range	1-25GHz
Channel	Middle (2 440 MHz)	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

☒ Complies

Test Data

[Transmit mode]

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Height [m]	Correction Factor Antenna + Amp. Gain + Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4882.16	43.5	47.9	H	1.5	4.1	54.0	74.0	47.6	52.0	6.4	22.0

EUT	BLE Dongle	Measurement Detail	
Model	IDB-02S	Frequency Range	1-25GHz
Channel	High (2 480 MHz)	Detector function	Average / Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (Z axis) for final test.

The requirements are:

☒ Complies

Test Data

[Transmit mode]

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Height [m]	Correction Factor Antenna + Amp. Gain + Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
4958.04	42.6	46.9	H	1.5	4.8	54.0	74.0	47.4	51.7	6.6	22.3

Restricted band edge test data

Measured frequency range : 2 483.5 - 2 500 MHz

[Transmit mode]

Frequency [MHz]	Reading [dBuV/m] AV	Reading [dBuV/m] Peak	Pol.	Height [m]	Correction Factor Antenna + Amp. Gain + Cable	Limits [dBuV/m] AV	Limits [dBuV/m] Peak	Result [dBuV/m] AV	Result [dBuV/m] Peak	Margin [dB] AV	Margin [dB] Peak
2483.54	51.7	61.1	H	1.5	-2.3	54.0	74.0	49.4	58.8	4.6	15.2

2.1.6 AC Power Line Conducted Emissions

Frequency Range of Measurement
150 kHz to 30 MHz

Instrument Settings
IF Band Width: 9 kHz

Test Procedures
The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.
Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit
- **15.207(a)**

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency.

Test Results
The requirements are:

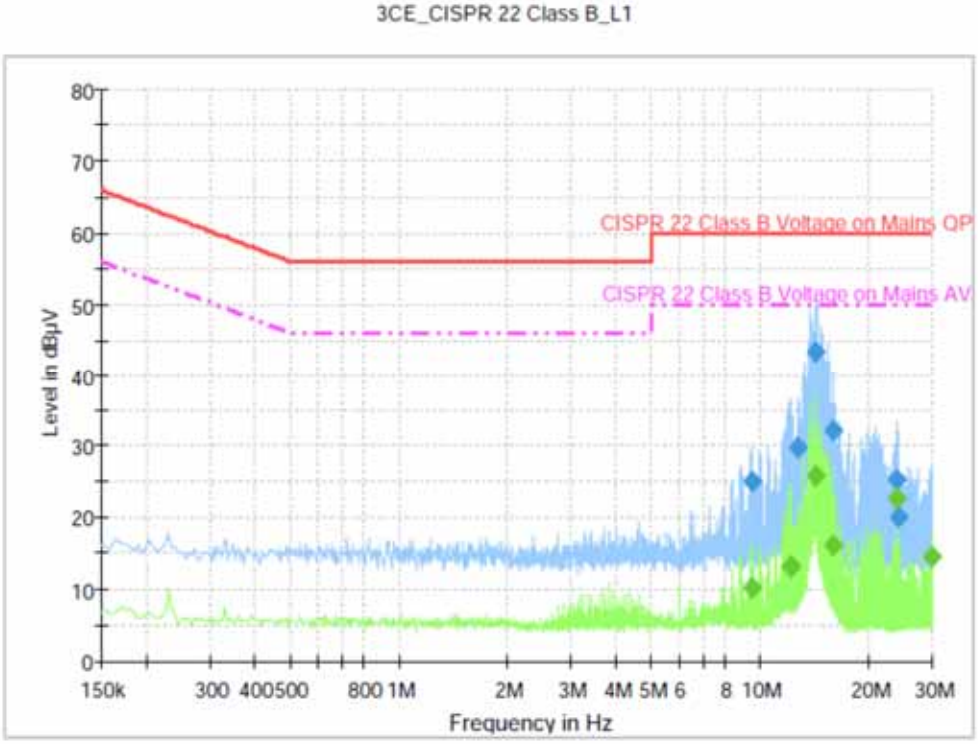
☒ Complies

Test mode : Charging mode

Frequency (MHz)	Measured Data (dBuV)	Margin (dB)	Remark
14.30	46.9	13.1	Quasi-Peak

Test Data

[L1]



Final Result 1

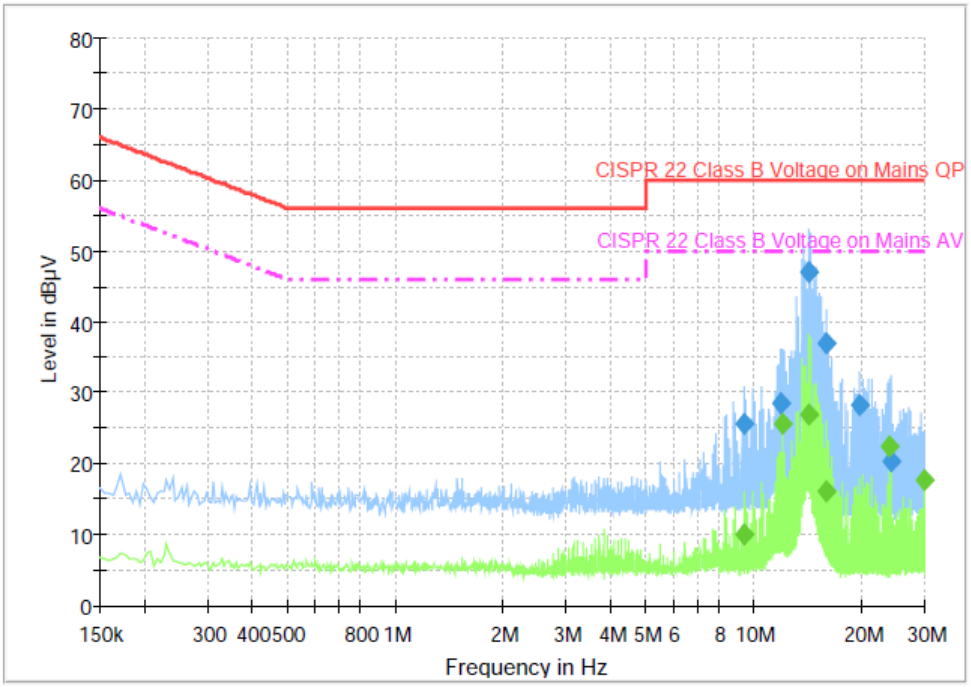
Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
9.501000	25.1	1000.0	9.000	On	L1	10.0	34.9	60.0
12.763500	30.0	1000.0	9.000	On	L1	10.0	30.0	60.0
14.347500	43.2	1000.0	9.000	On	L1	10.0	16.8	60.0
16.030500	32.3	1000.0	9.000	On	L1	10.0	27.7	60.0
24.049500	25.4	1000.0	9.000	On	L1	10.1	34.6	60.0
24.315000	20.1	1000.0	9.000	On	L1	10.1	39.9	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
9.501000	10.3	1000.0	9.000	On	L1	10.0	39.7	50.0
12.165000	13.3	1000.0	9.000	On	L1	10.0	36.7	50.0
14.347500	25.9	1000.0	9.000	On	L1	10.0	24.1	50.0
15.931500	16.1	1000.0	9.000	On	L1	10.0	33.9	50.0
24.000000	22.7	1000.0	9.000	On	L1	10.1	27.3	50.0
30.000000	14.6	1000.0	9.000	On	L1	10.1	35.4	50.0

[NEUTRAL]

3CE_CISPR 22 Class B_N



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
9.384000	25.6	1000.0	9.000	On	N	10.0	34.4	60.0
11.976000	28.5	1000.0	9.000	On	N	10.0	31.5	60.0
14.302500	46.9	1000.0	9.000	On	N	10.1	13.1	60.0
15.958500	36.9	1000.0	9.000	On	N	10.1	23.1	60.0
19.707000	28.3	1000.0	9.000	On	N	10.2	31.7	60.0
24.292500	20.4	1000.0	9.000	On	N	10.3	39.6	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
9.384000	10.1	1000.0	9.000	On	N	10.0	39.9	50.0
11.998500	25.5	1000.0	9.000	On	N	10.0	24.5	50.0
14.352000	26.8	1000.0	9.000	On	N	10.1	23.2	50.0
16.030500	16.2	1000.0	9.000	On	N	10.1	33.8	50.0
24.000000	22.4	1000.0	9.000	On	N	10.3	27.6	50.0
29.998500	17.6	1000.0	9.000	On	N	10.3	32.4	50.0

APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date
1	MXA Signal Analyzer	Agilent	N9020A	MY50510324	2016-03-11	2017-03-11
2	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2015-11-02	2016-11-02
3	EMI Test Receiver	Rohde & Schwarz	ESCI7	100816	2015-11-02	2016-11-02
4	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2016-05-14	2017-05-14
5	Bilog Antenna	Schaffner	CBL6111C	2551	2015-04-24	2017-04-24
6	Double Ridged Guide Antenna	ETS-Lindgren	3117	00154525	2015-09-02	2017-09-02
7	Double Ridged Guide Antenna	ETS-Lindgren	3116	00062916	2015-09-04	2017-09-04
8	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-126	2016-05-25	2018-05-25
9	Attenuator	Rohde & Schwarz	DNF	272.4110.50-2	2015-11-03	2016-11-03
10	PREAMPLIFIER	Agilent	8449B	3008A02011	2015-12-08	2016-12-08
11	AMPLIFIER	Sonoma Instrument Co.	310	291721	2016-02-02	2017-02-02
12	Signal Generator	Rohde & Schwarz	SMB100A	175528	2016-01-20	2017-01-20
13	DC POWER SUPPLY	HP	E3632A	MY40011638	2015-11-02	2016-11-02
14	LISN	Rohde & Schwarz	ENV216	101760	2016-02-05	2017-02-05