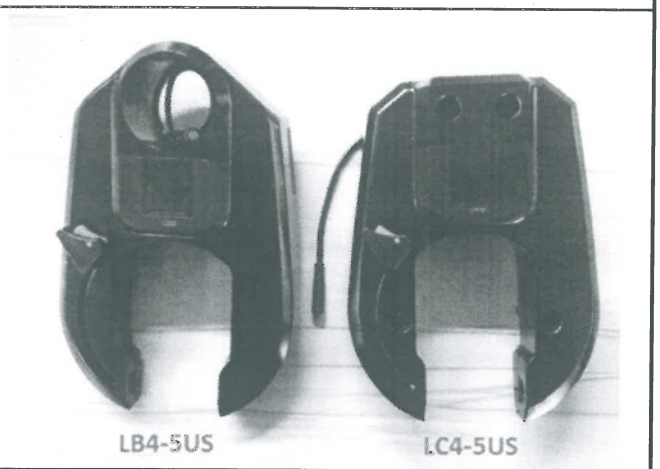
Prüfbericht-Nr.: *Test Report No.:*	**50070785 001**	**Auftrags-Nr.:** *Order No.:*	**154220594**	**Seite 1 von 51** *Page 1 of 51*
Kunden-Referenz-Nr.: *Client Reference No.:*	**654233**	**Auftragsdatum:** *Order date:*	**01.03.2017**	
Auftraggeber: *Client:*	**MOBIKE (HONGKONG) LIMITED** 2/F HONGKONG OFFSHORE CTR 28, AUSTIN AVENUE TST KLN, HONGKONG			
Prüfgegenstand: *Test item:*	**Mobike Lock**			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	**LB4-5US; LC4-5US** **FCC ID: 2AK4SLBC4-5US**			
Auftrags-Inhalt: *Order content:*	**Complete test**			
Prüfgrundlage: *Test specification:*	**FCC CFR47 Part 22, Subpart H** **FCC CFR47 Part 24, Subpart E**			
Wareneingangsdatum: *Date of receipt:*	**12.09.2016**			
Prüfmuster-Nr.: *Test sample No.:*	**A000475161-001**			
Prüfzeitraum: *Testing period:*	**01.19.2017 to 01.20.2017**			
Ort der Prüfung: *Place of testing:*	**MRT Technology(Suzhou) Co., Ltd.**			
Prüflaboratorium: *Testing laboratory:*	**TÜV Rheinland (Shanghai) Co., Ltd.**			
Prüfergebnis*: *Test result*:*	**Pass**			



geprüft von / *tested by*:

02.07.2017	Elliot Zhang / Senior Project Engineer	Junior Zhang
Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

kontrolliert von / *reviewed by*:

02.07.2017	Shi Li / Section Manager	SL
Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

Sonstiges / *Other*

Zustand des Prüfgegenstandes bei Anlieferung: Prüfmuster vollständig und unbeschädigt
Condition of the test item at delivery: *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

5.1.1 RADIATED POWER
RESULT: *Pass*

5.1.2 PEAK-AVERAGE RATIO
RESULT: *Pass*

5.1.3 OCCUPIED BANDWIDTH
RESULT: *Pass*

5.1.4 SPURIOUS EMISSIONS AT ANTENNA TERMINALS
RESULT: *Pass*

5.1.5 BANDEDGE SPURIOUS EMISSION AT ANTENNA TERMINALS
RESULT: *Pass*

5.1.6 RADIATED SPURIOUS EMISSIONS
RESULT: *Pass*

5.1.7 FREQUENCY STABILITY
RESULT: *Pass*

Contents

1. General Remarks

1.1 Complementary Materials

Null.

2. Test Sites

2.1 Test Facilities

MRT Technology (Suzhou) Co., Ltd.

D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China

The used test equipment is in accordance with CISPR 16 for measurement of radio interference.

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 809388.

The Industry Canada has reviewed the technical characteristics of the radiated and conducted emission facility, and has found these test facilities to be in compliance. The description of the test facility is listed under chambers filing number 11384A.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radiated Test Equipments

Instrument	Manufacturer	Type No.	Asset No.	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MY52090106	05.08.2017
EMI Test Receiver	R&S	ESR 3.6	102030	05.08.2017
Radio Communication Tester	R&S	CMU 200	117129	11.10.2017
Preamplifier	Schwarzbeck	BBV 9718	302	04.16.2017
Preamplifier	Schwarzbeck	BBV9721	9721-008	04.16.2017
Loop Antenna	Schwarzbeck	FMZB1519	1519-041	11.21.2017
Bilog Period Antenna	Schwarzbeck	VULB 9168	662	11.18.2017
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	1457	11.18.2017
Broadband Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170549	01.03.2018
ESG Vector Signal Generator	Agilent	E4438C	MY49872484	12.06.2017
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1167	10.22.2017
Half-Wave Tuned Dipole Antenna	Schwarzbeck	UHA 9105	UHA 91052260	12.24.2017
Temperature/Humidity Meter	Yuhuaze	ETH529	N/A	12.24.2017
Anechoic Chamber	RIKEN	Chamber-AC2	N/A	05.10.2017

Conducted Test Equipments

Instrument	Manufacturer	Type No.	Asset No.	Cali. Due Date
EXA Signal Analyzer	Agilent	N9010A	MY51440166	06.23.2017
Radio Communication Tester	R&S	CMU 200	117129	11.10.2017
USB Wideband Power Sensor	Boonton	55006	8911	05.07.2017
Programmable Temperature & Humidity Chamber	BAOYT	BYH-1500L	1309W043	12.08.2017
Temperature/Humidity Meter	Yuhuaze	HTC-2	N/A	12.20.2017

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

Table 2: Measurement Uncertainty

Item	Conditions	Extended Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Frequency Stability	Conducted	2.3%
Conducted Spurious Emission	Conducted	±2.17dB
Transmitter Spurious Emissions	Radiated	±5.1dB

3. General Product Information

3.1 Product Function and Intended Use

The EUTs (Equipments Under Test) are smart locks which use the technic of GSM / WCDMA / GPS / Bluetooth 4.0 Low Engry Only. There are two models: LB4-5US and LC4-5US, all of the two models are the same except the corresponding structure due to different installation method. For details please refer to the user manual and EUT Photos.

The aim of this report is to evalute the RF characteristic of the GSM.

For details refer to the User Manual and Circuit Diagram.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Description of EUT	
Product Name:	Mobike Lock
Brand Name:	mobike
Model No.:	LB4-5US; LC4-5US
Rated Voltage:	DC 3.7V
Type of Product:	Mobile Device
GSM	
Support Networks:	GPRS, EDGE
Supprot Bands:	Dual band GSM 850/1900MHz
Frequency Range:	GSM850: Tx: 824-849MHz, Rx: 869-894MHz PCS1900: Tx: 1850-1910MHz, Rx: 1930-1990MHz
Modulation Type:	GMSK, 8PSK
Multislot Class:	GPRS: Class 12 EDGE: Class 12
Mobile Station Class:	GPRS: Class B EDGE: Class B
Antenna Type:	PIFA
Antenna Gain:	1.23 dBi
WCDMA	
Support Networks:	WCDMA,HSDPA, HSUPA
Support Bands:	Dual band UMTS 850/1900
Frequency Range:	CLR850: Tx: 824-849MHz, Rx: 869-894MHz PCS1900: Tx: 1850-1910MHz, Rx: 1930-1990MHz

Modulation Type:	BPSK, QPSK, 16QAM
Category:	WCDMA: up to 384kbps DL/UL HSDPA: Cat.8 HSUPA: Cat.6
Antenna Type:	PIFA
Antenna Gain:	1.23 dBi
BLE	
Frequency Range:	2402 – 2480MHz
Modulation Type:	GFSK
Antenna Type:	Monopole
Antenna Gain:	4.83 dBi

Table 4: RF Channel and Frequency

Support Band	Support Network	Channel Number	Channel Frequency
GSM 850	GPRS/EDGE	128	824.2 MHz
		190	836.6 MHz
		251	848.8 MHz
GSM 1900	GPRS/EDGE	512	1850.2 MHz
		661	1880.0 MHz
		810	1909.8 MHz

3.3 Independent Operation Modes

Test Mode	Network	Band	Channel
TM1	GPRS	GSM 850	128
TM2			190
TM3			251
TM4		GSM 1900	512
TM5			661
TM6			810
TM7	EDGE	GSM 850	128
TM8			190
TM9			251
TM10		GSM 1900	512
TM11			661
TM12			810

Note:
According to the difference between the two models, which will not affect the test result, the Model LB4-5US was chosen for the all tests.

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material
- PCB Layout
- Photo Document
- Circuit Diagram
- Instruction Manual
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum power level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

The EUT was controlled by Telecommunication Tester Set CMU200 during the test.
Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI/TIA-603-D (2010).

4.3 Special Accessories and Auxiliary Equipment

Null.

4.4 Countermeasures to achieve EMC Compliance

Null.

5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Radiated Power

RESULT: **Pass**

Date of testing : 01.19.2017
Test standard : FCC Part 22.913 (a) (2)
FCC Part 24.232 (c)
Limit : ≤ 7W ERP (GSM850MHz)
≤ 2W EIRP (GSM1900MHz)
Kind of test site : 3m Full-anechoic Chamber

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : TM1 to TM12
Ambient temperature : 25℃
Relative humidity : 52%
Atmospheric pressure : 101kPa

Table 5: Radiated Power

Test Mode	Channel	Frequency [MHz]	ERP [dBm]	ERP [W]	Limit [W]
TM1	128	824.2	33.74	2.37	7
TM2	**190**	**836.6**	**33.83**	**2.42**	
TM3	251	848.8	33.76	2.38	
TM7	128	824.2	27.86	0.61	
TM8	190	836.6	27.84	0.61	
TM9	251	848.8	27.92	0.62	
Test Mode	Channel	Frequency [MHz]	EIRP [dBm]	EIRP [W]	Limit [W]
TM4	512	1850.2	30.39	1.09	2
TM5	**661**	**1880.0**	**30.43**	**1.10**	
TM6	810	1909.8	30.30	1.07	
TM10	512	1850.2	26.92	0.49	
TM11	661	1880.0	26.99	0.49	
TM12	810	1909.8	26.99	0.50	

Note: ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

5.1.2 Peak-Average Ratio

RESULT: **Pass**

Date of testing : 01.20.2017
Test standard : FCC Part 24.232 (d)
Limit : <13dB
Kind of test site : Shielded room

Test setup

Test Channel : Middle
Operation Mode : TM5, TM11
Ambient temperature : 25℃
Relative humidity : 52%
Atmospheric pressure : 101kPa

Table 6: Peak Average Radio

Test Mode	Frequency [MHz]	Peak – Average Ratio [dB]	Limit
TM5	1880.0	9.87	<13dB
TM11	1880.0	10.05	

5.1.3 Occupied Bandwidth

RESULT: **Pass**

Date of testing : 01.19.2017
Test standard : FCC Part 2.1049
Limit : N/A
Kind of test site : Shielded room

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : TM1 to TM12
Ambient temperature : 25℃
Relative humidity : 52%
Atmospheric pressure : 101kPa

Table 7: Occupied Bandwidth

Test Mode	Network	Band	Channel	Frequency [MHz]	99% bandwidth [kHz]	26dB bandwidth [kHz]
TM1	GPRS	GSM 850	128	824.2	244.09	316.2
TM2			190	836.6	240.39	309.3
TM3			251	848.8	244.67	314.0
TM4		GSM 1900	512	1850.2	244.55	309.3
TM5			661	1880.0	248.06	318.3
TM6			810	1909.8	243.48	313.6
TM7	EDGE	GSM 850	128	824.2	243.43	311.7
TM8			190	836.6	243.97	312.2
TM9			251	848.8	243.47	320.4
TM10		GSM 1900	512	1850.2	242.68	309.5
TM11			661	1880.0	246.03	313.0
TM12			810	1909.8	244.99	320.1

Figure 1: Occupied Bandwidth, TM1

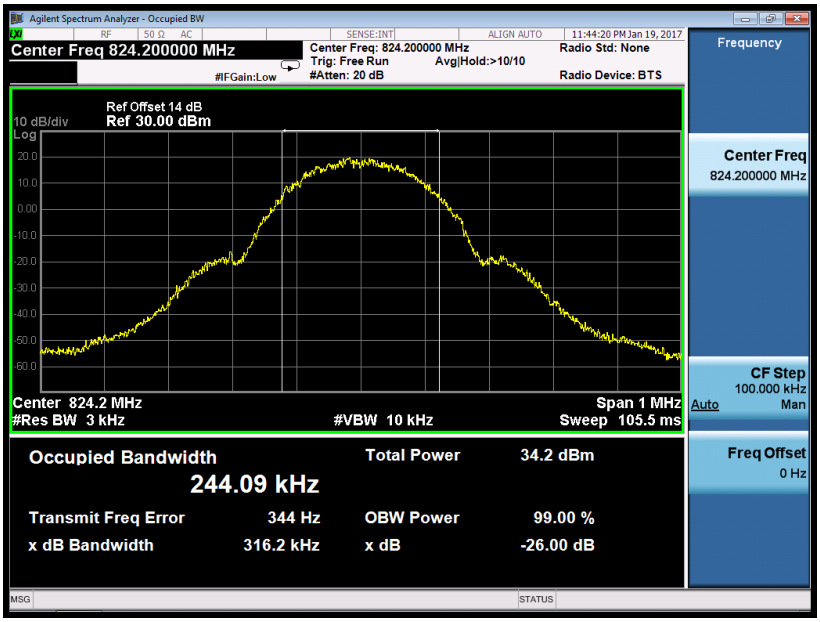


Figure 2: Occupied Bandwidth, TM2

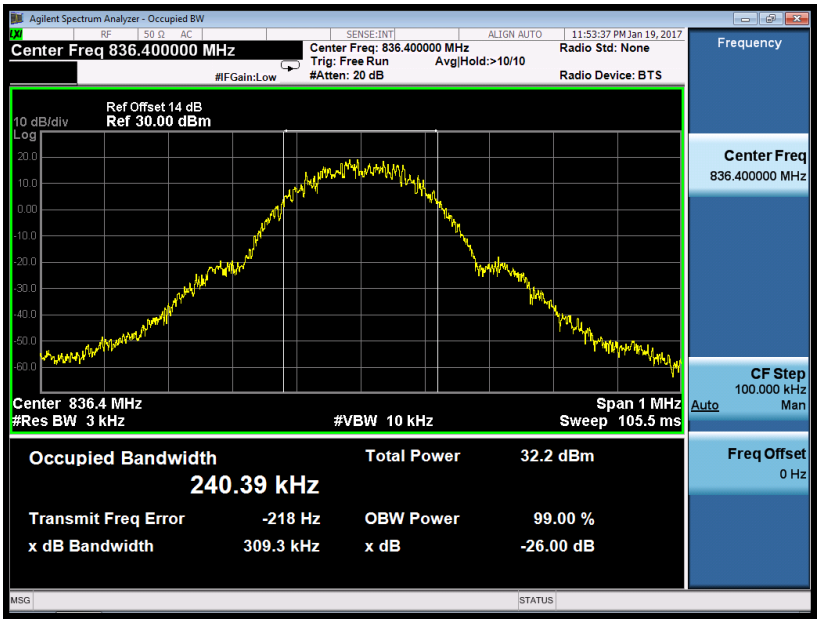


Figure 3: Occupied Bandwidth, TM3

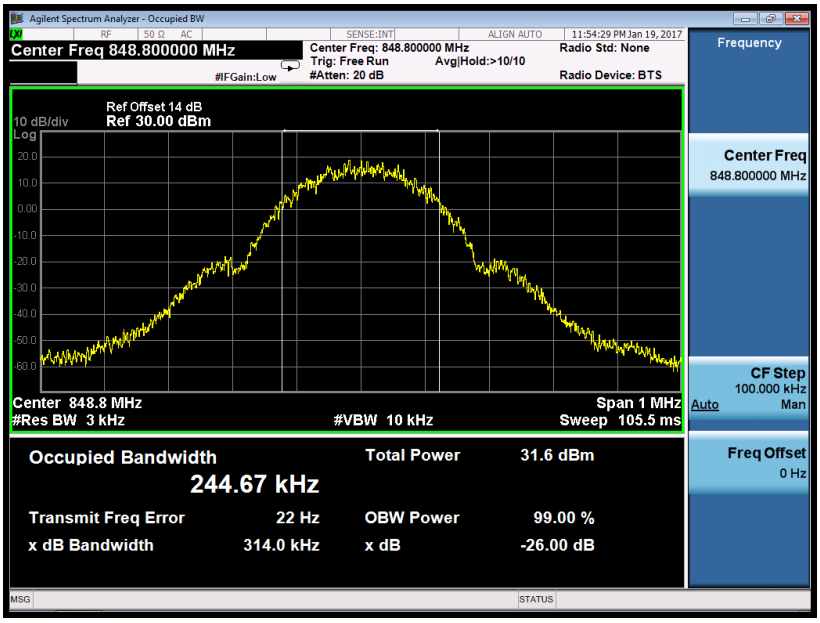


Figure 4: Occupied Bandwidth, TM4

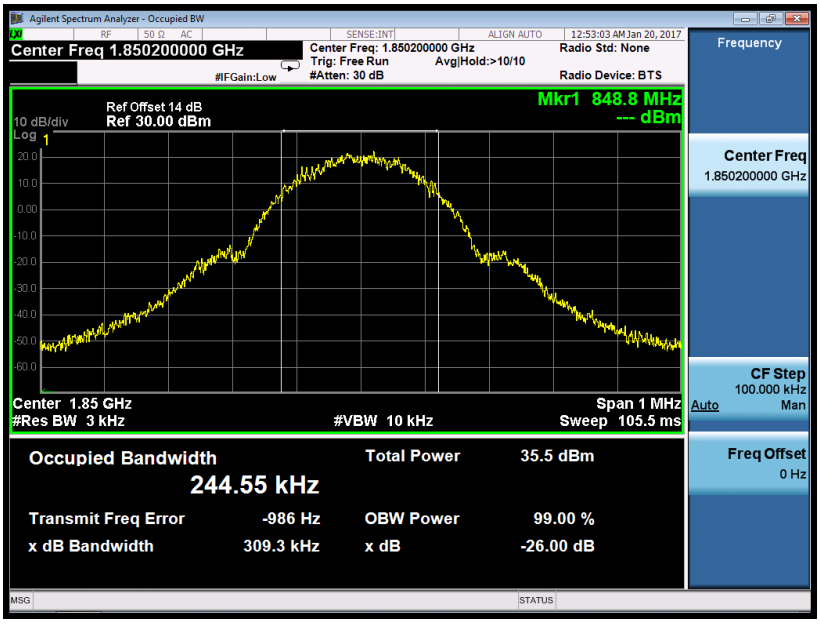


Figure 5: Occupied Bandwidth, TM5

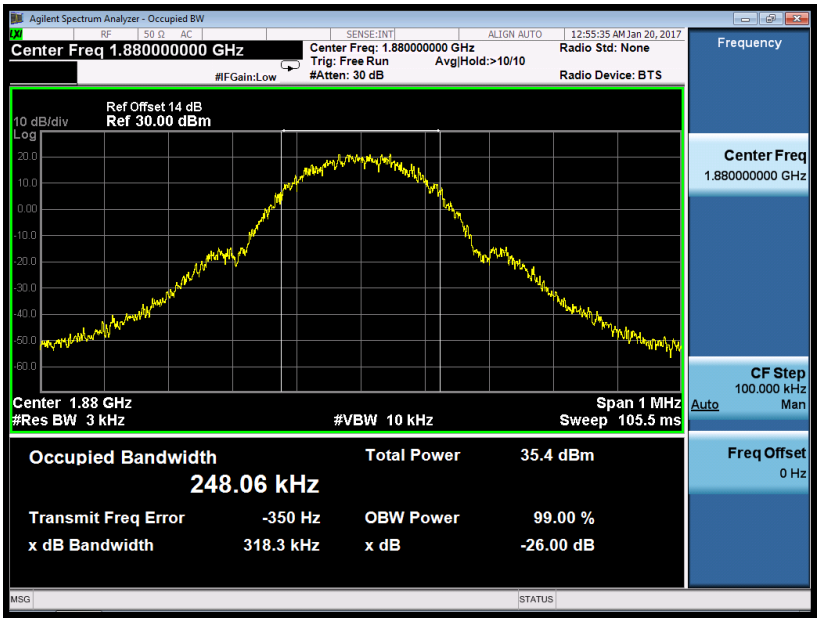


Figure 6: Occupied Bandwidth, TM6

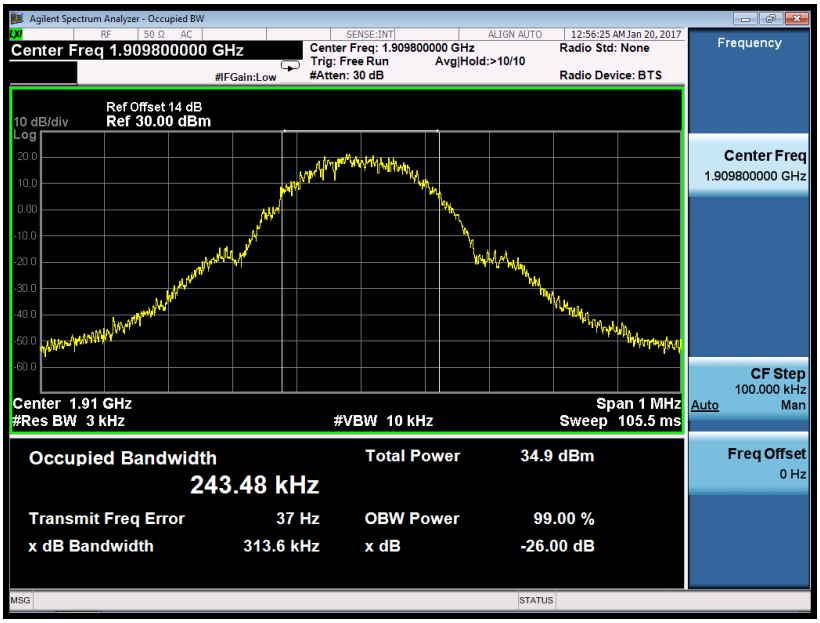


Figure 7: Occupied Bandwidth, TM7

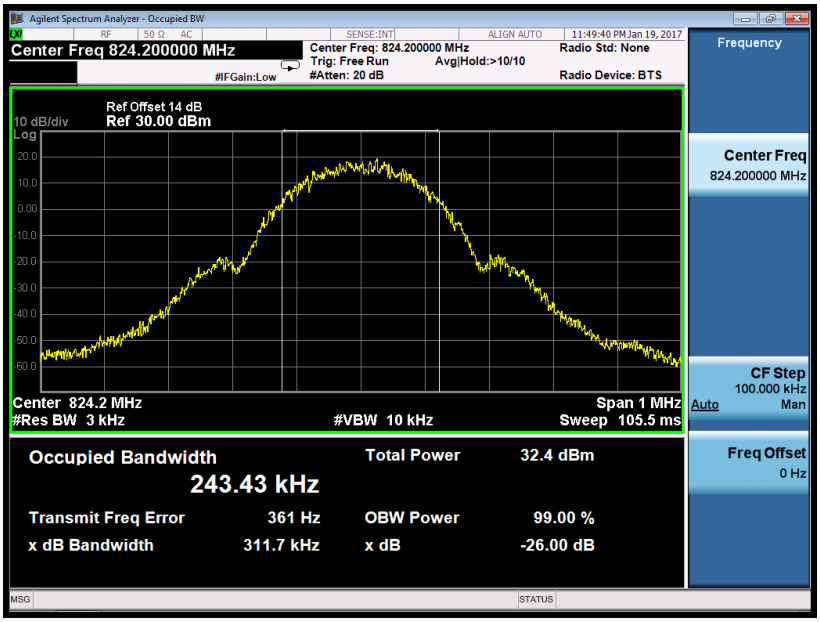


Figure 8: Occupied Bandwidth, TM8

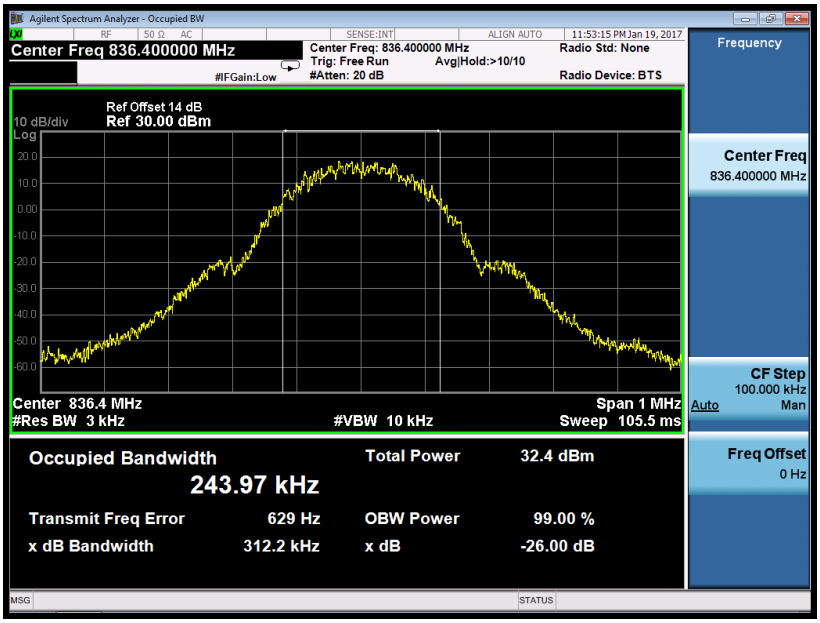


Figure 9: Occupied Bandwidth, TM9

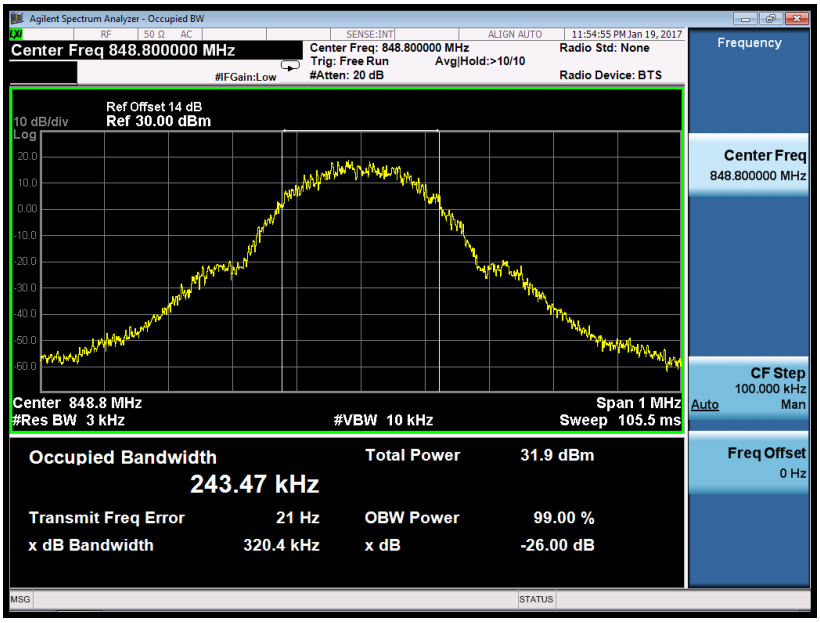


Figure 10: Occupied Bandwidth, TM10

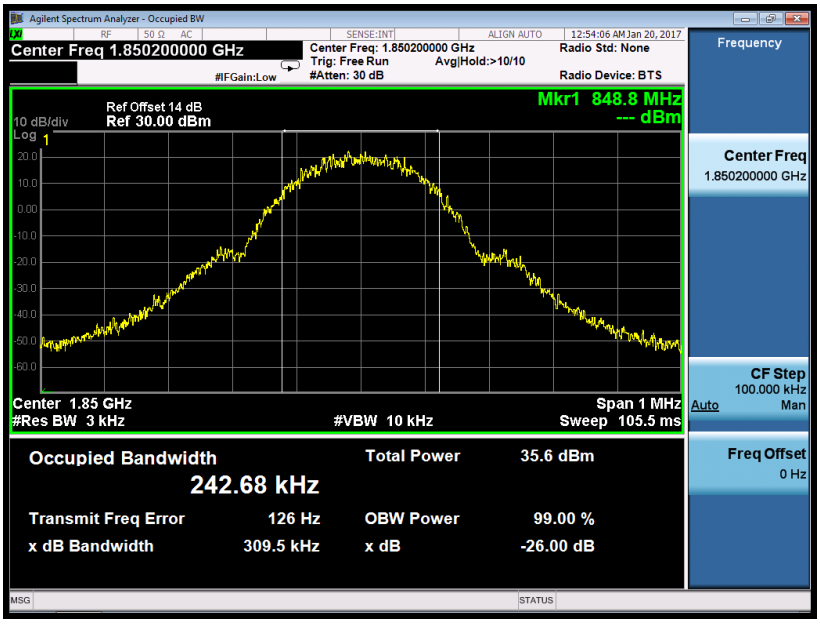


Figure 11: Occupied Bandwidth, TM11

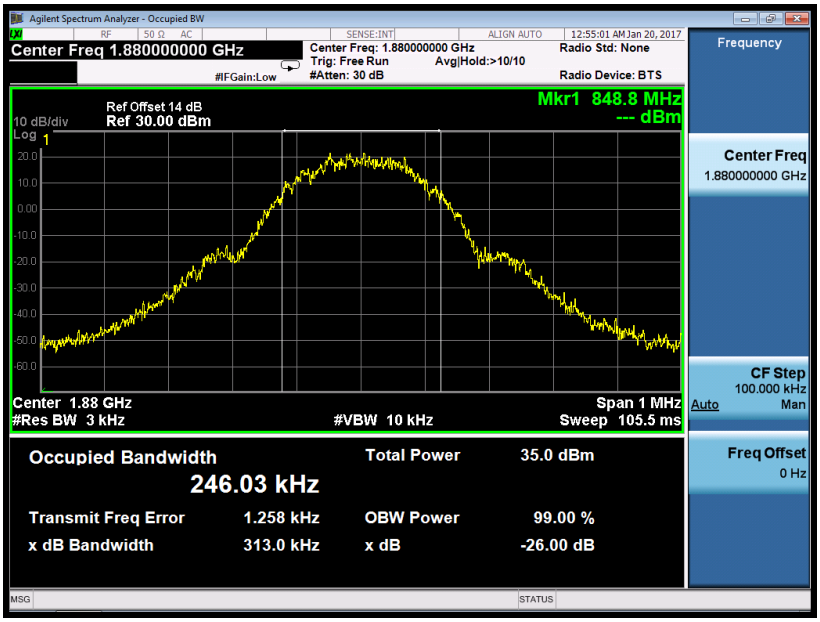
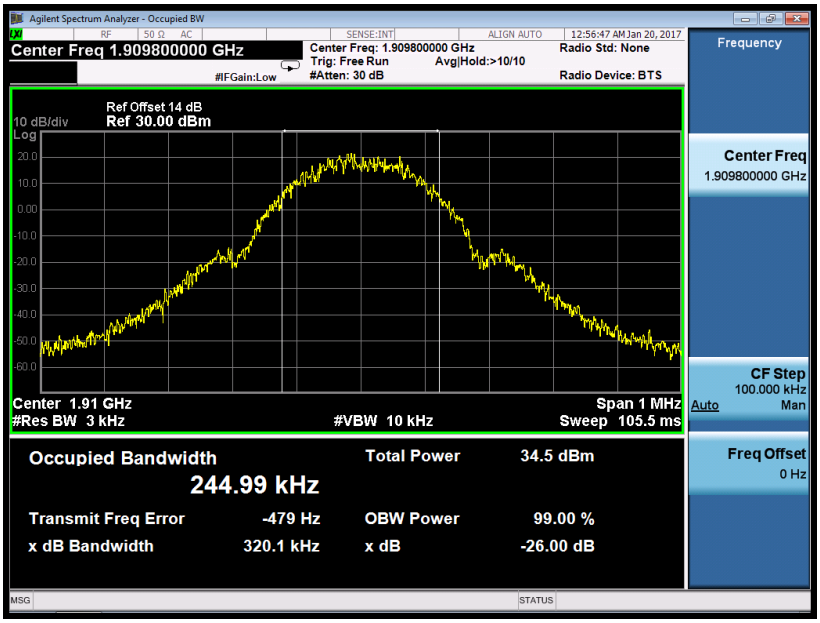


Figure 12: Occupied Bandwidth, TM12



5.1.4 Spurious Emissions at Antenna Terminals

RESULT: **Pass**

Date of testing	:	01.20.2017
Test standard	:	FCC Part 2.1051 FCC Part 22.917 (a) FCC Part 24.238 (a)
Limit	:	Less than -13dBm
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low/ Middle/ High
Operation Mode	:	TM1 to TM12
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

Figure 13: Conducted Spurious Emission, TM 1, part 1

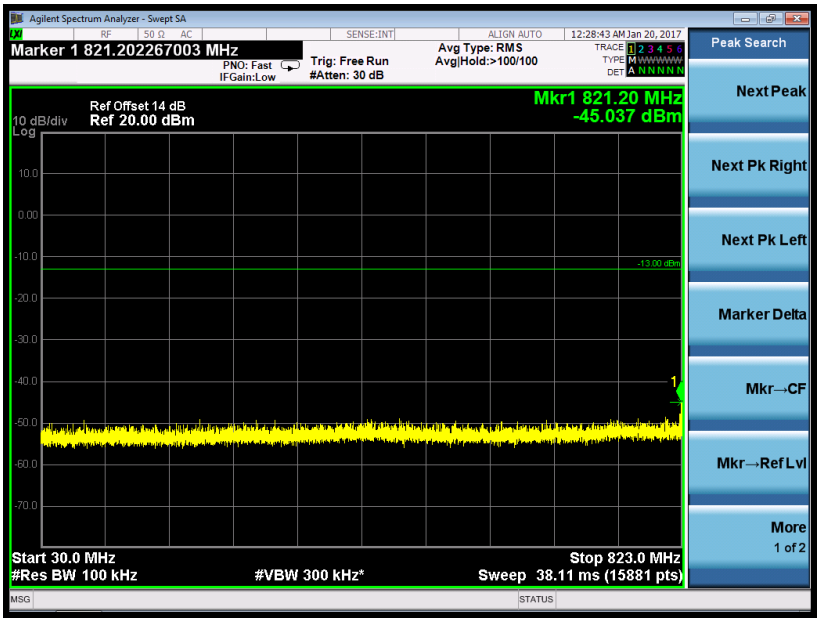


Figure 14: Conducted Spurious Emission, TM 1, part 2

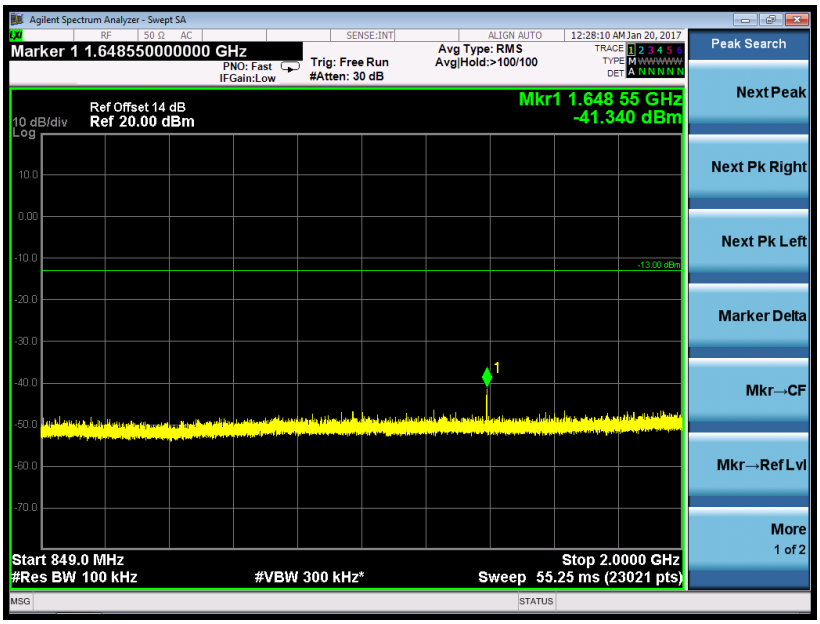


Figure 15: Conducted Spurious Emission, TM 1, part 3

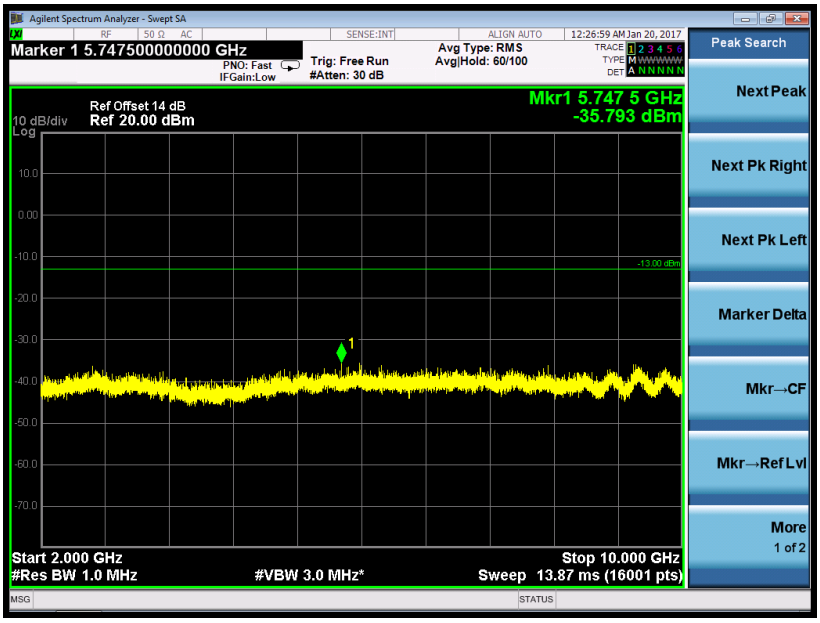


Figure 16: Conducted Spurious Emission, TM 2, part 1

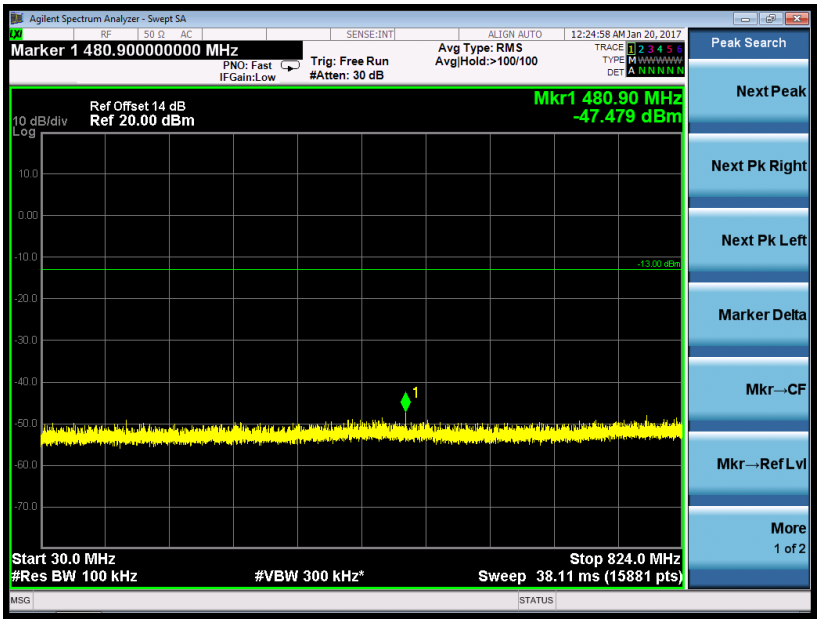


Figure 17: Conducted Spurious Emission, TM 2, part 2

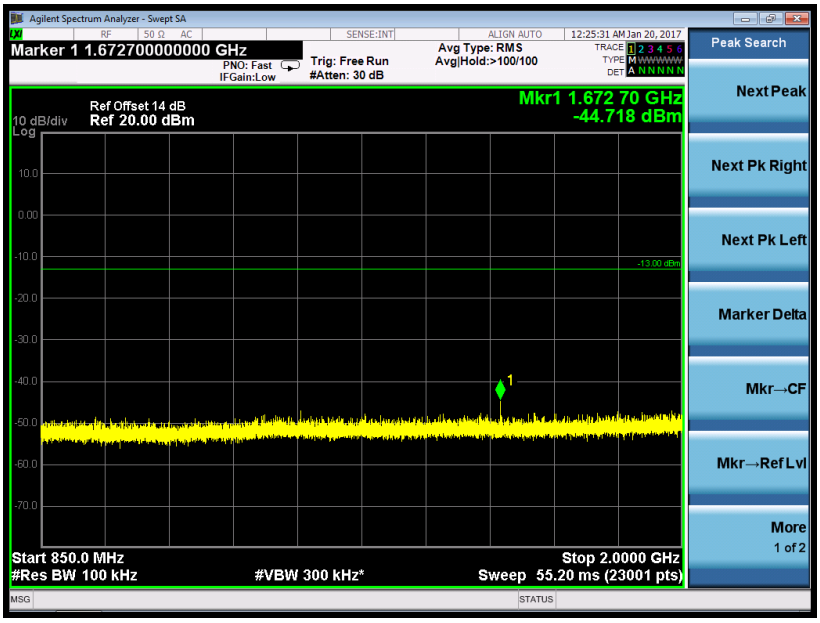


Figure 18: Conducted Spurious Emission, TM 2, part 3

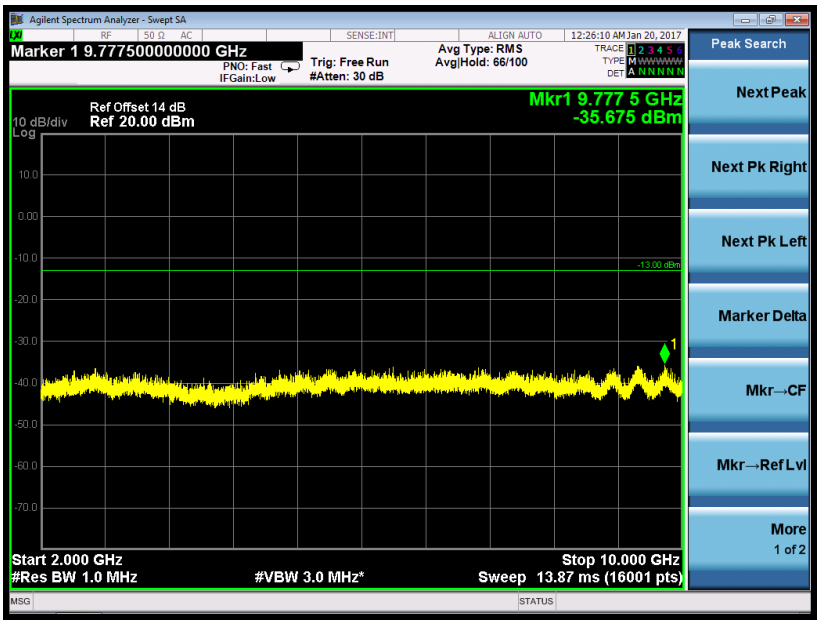


Figure 19: Conducted Spurious Emission, TM 3, part 1

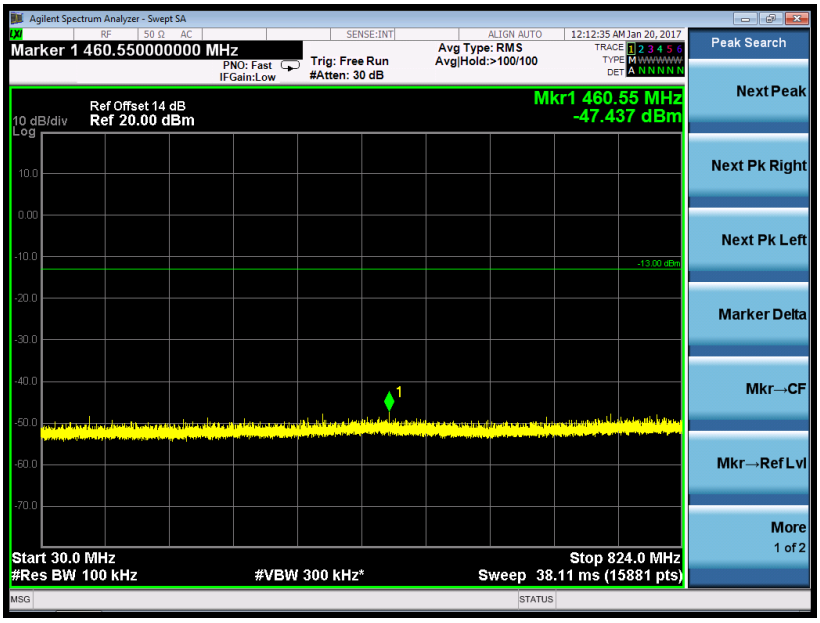


Figure 20: Conducted Spurious Emission, TM 3, part 2

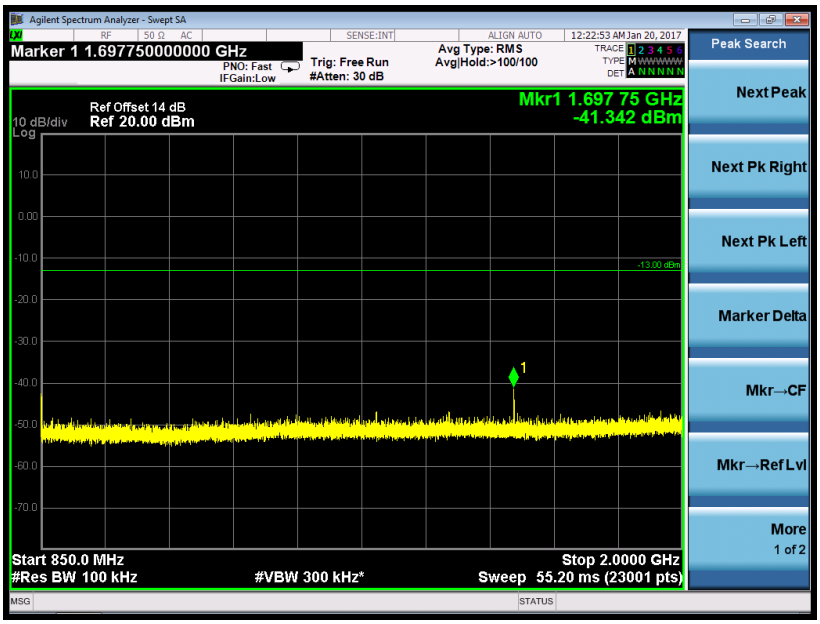


Figure 21: Conducted Spurious Emission, TM 3, part 3

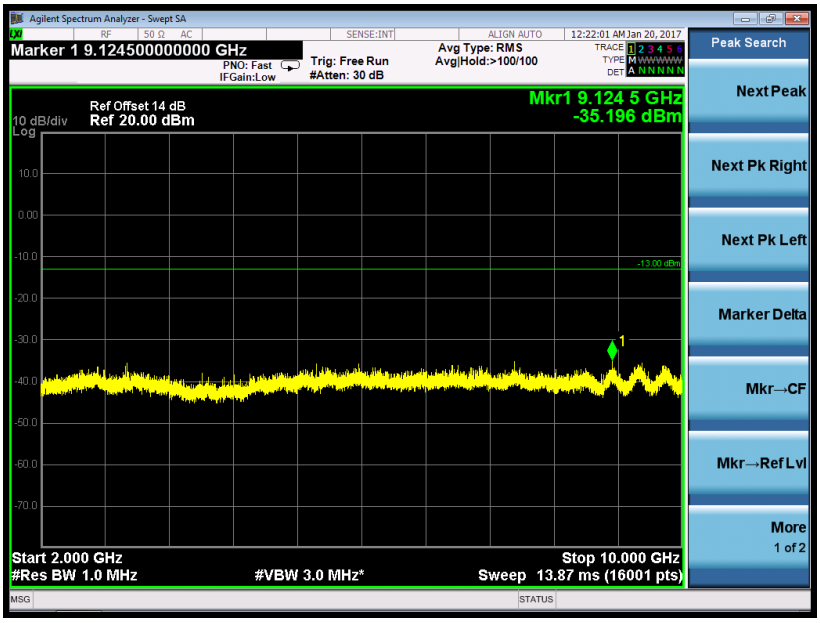


Figure 22: Conducted Spurious Emission, TM 4, part 1

Figure 23: Conducted Spurious Emission, TM 4, part 2

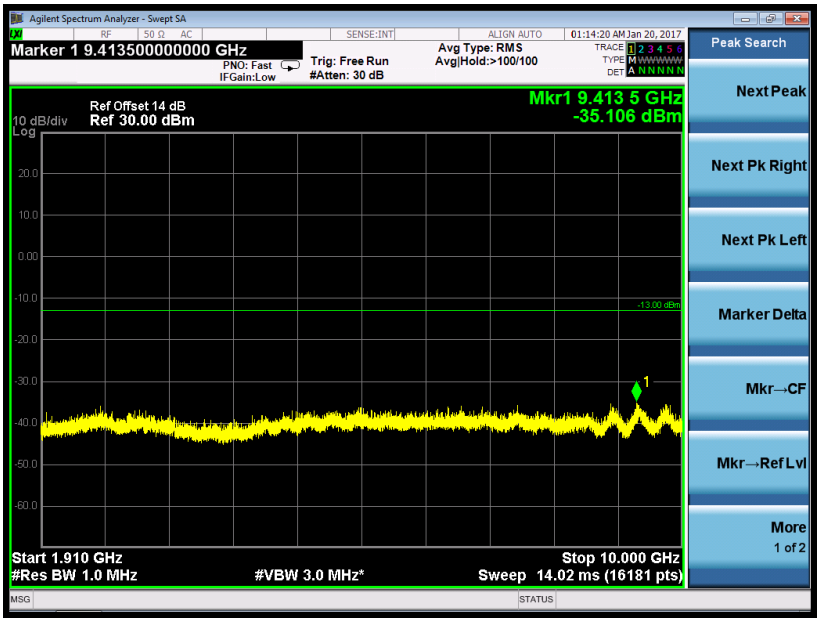


Figure 24: Conducted Spurious Emission, TM 4, part 3

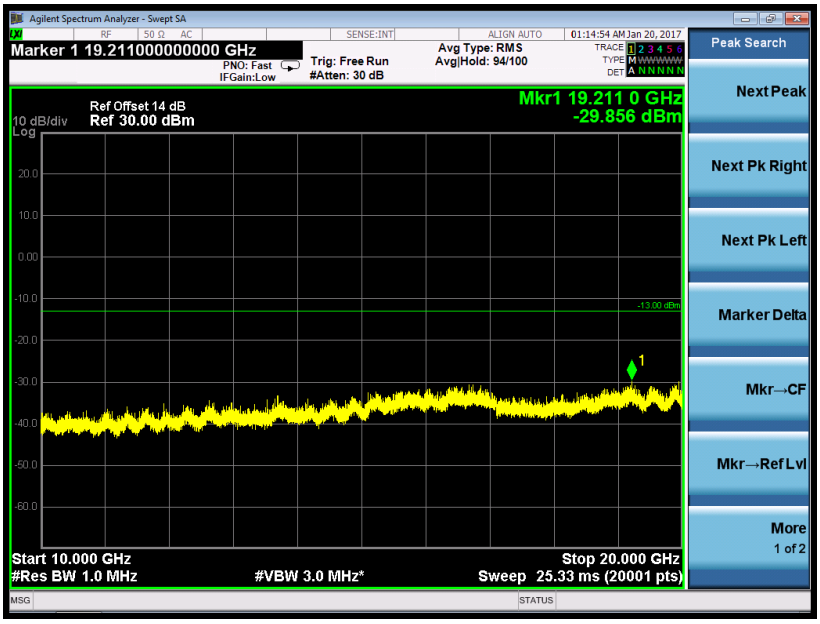


Figure 25: Conducted Spurious Emission, TM 5, part 1

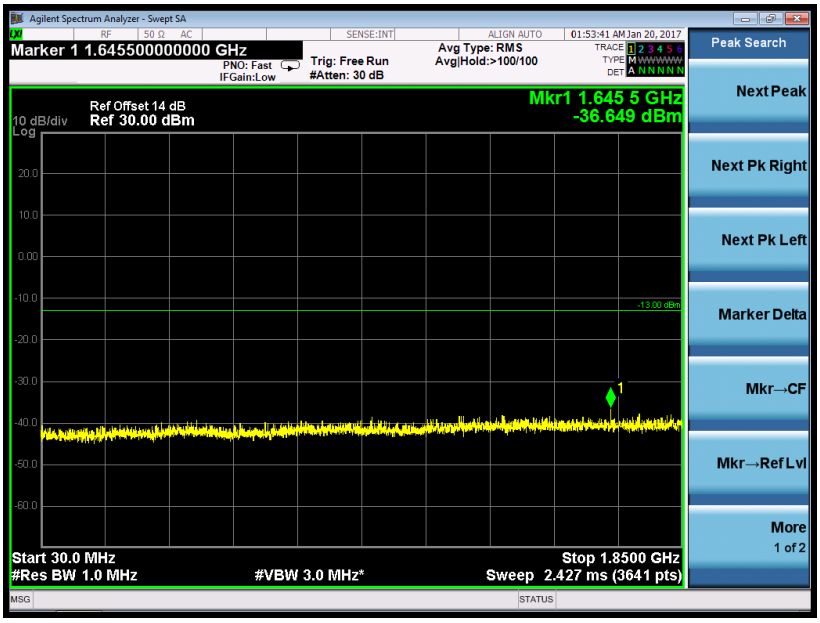


Figure 26: Conducted Spurious Emission, TM 5, part 2

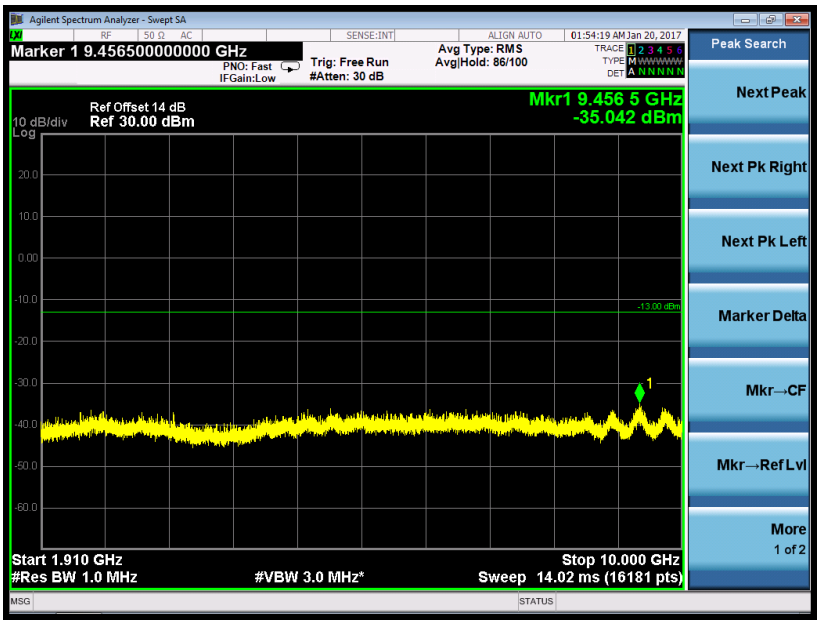


Figure 27: Conducted Spurious Emission, TM 5, part 3

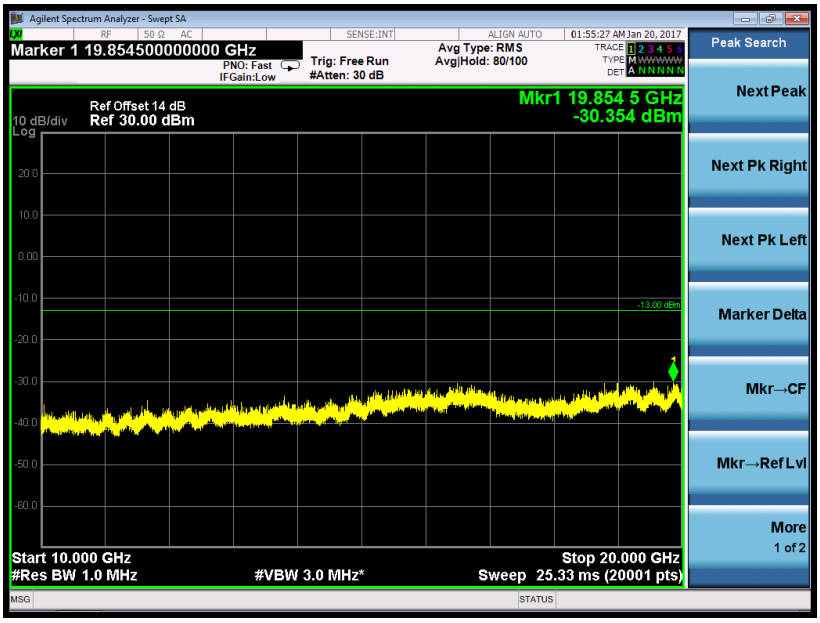


Figure 28: Conducted Spurious Emission, TM 6, part 1

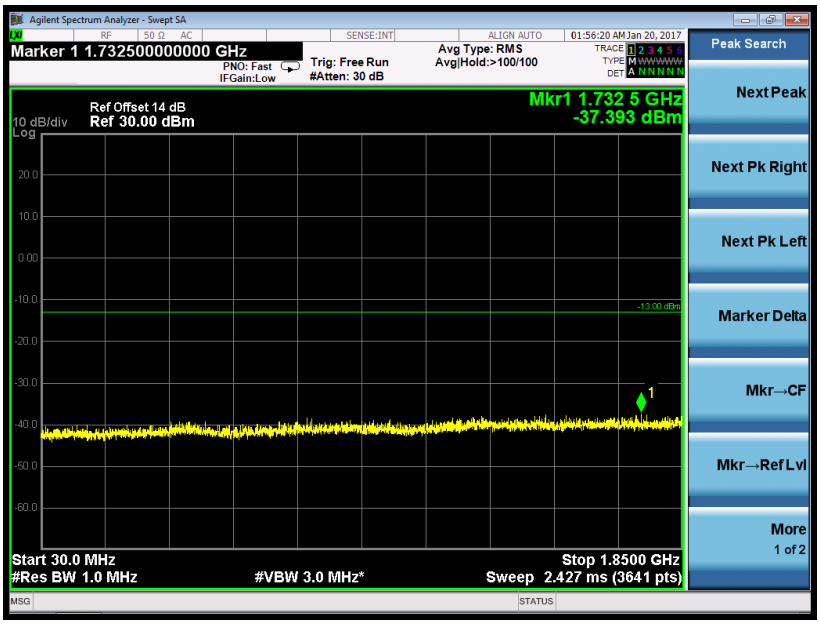


Figure 29: Conducted Spurious Emission, TM 6, part 2

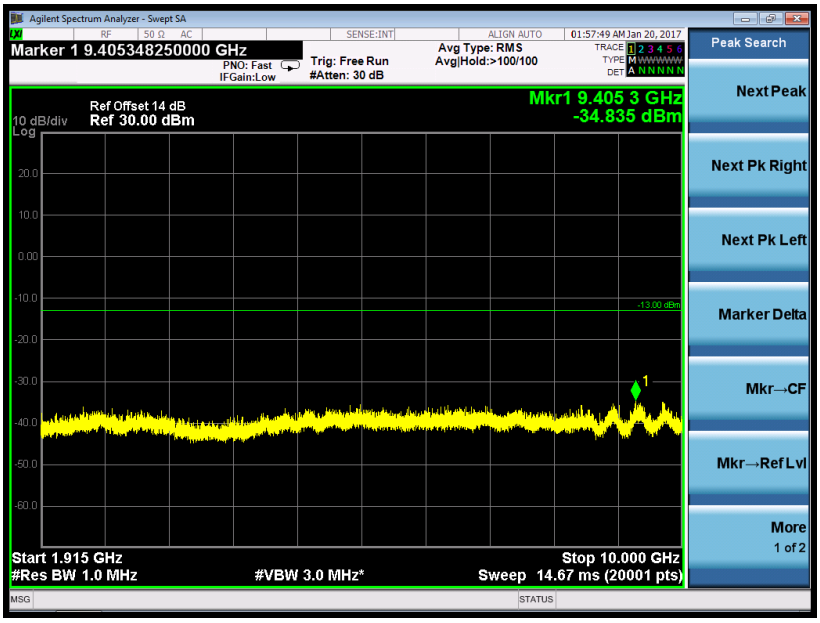


Figure 30: Conducted Spurious Emission, TM 6, part 3

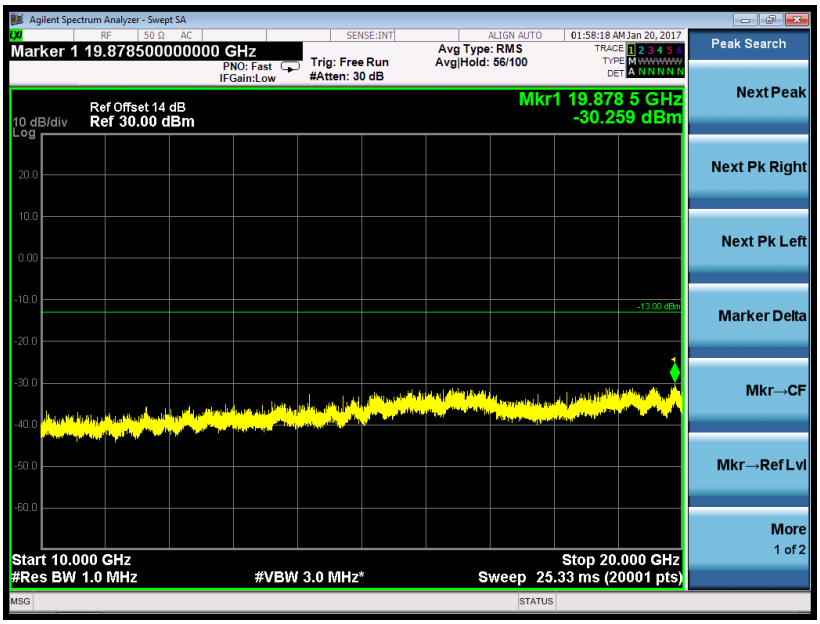


Figure 31: Conducted Spurious Emission, TM 7, part 1

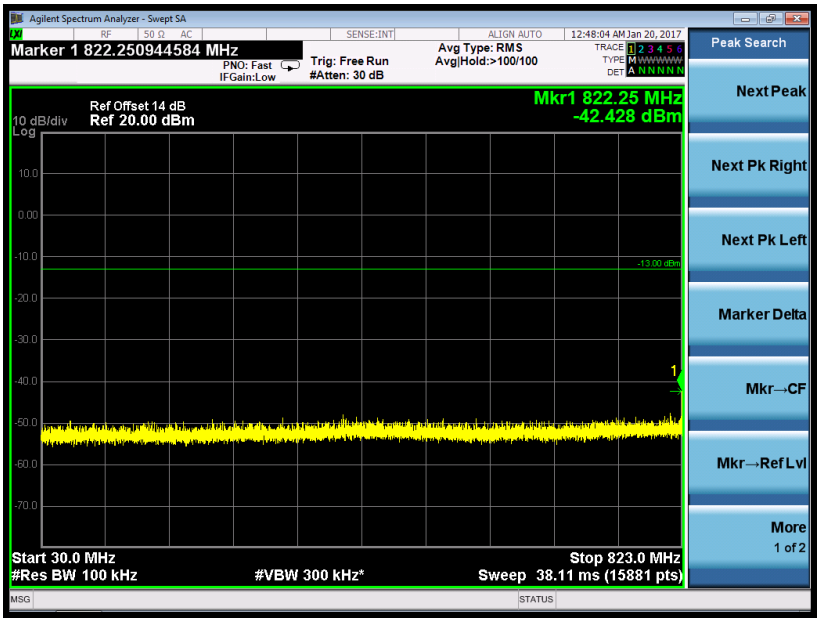


Figure 32: Conducted Spurious Emission, TM 7, part 2

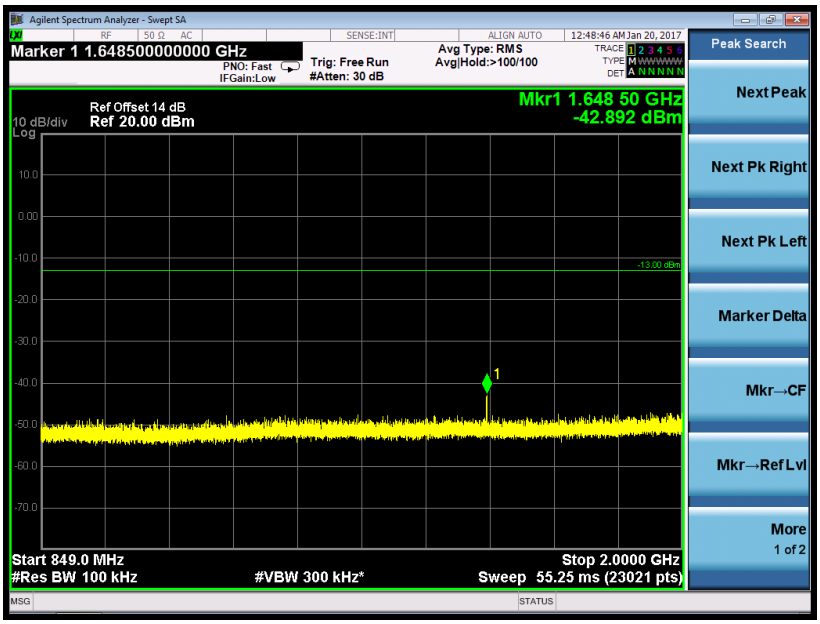


Figure 33: Conducted Spurious Emission, TM 7, part 3

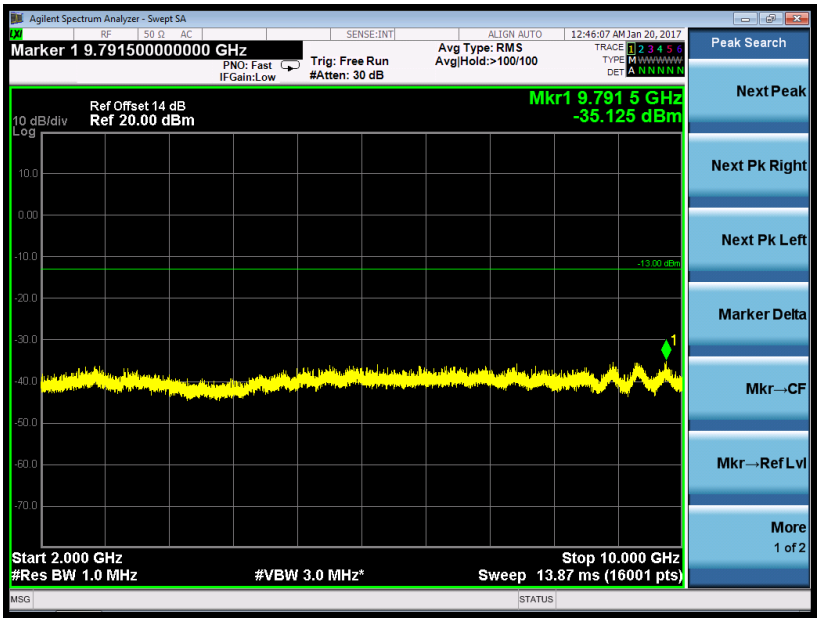


Figure 34: Conducted Spurious Emission, TM 8, part 1

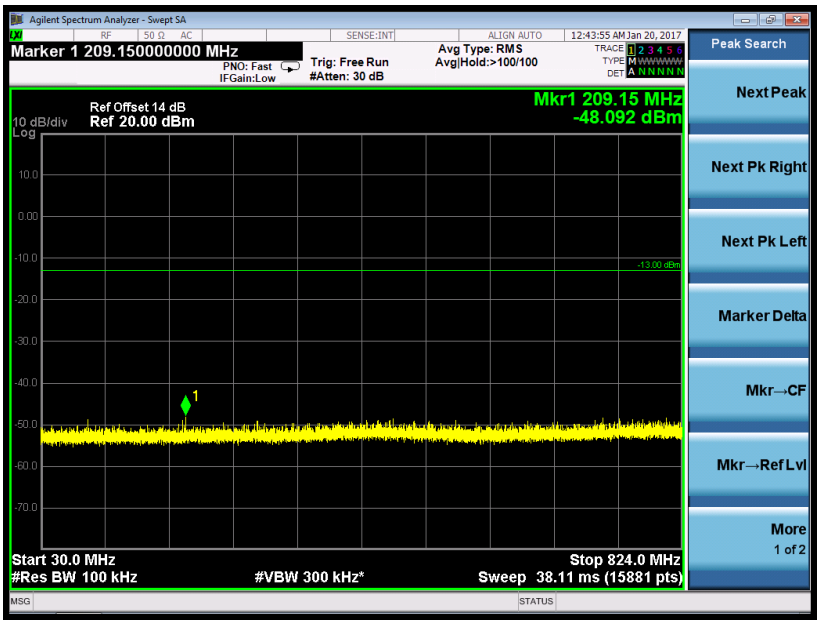


Figure 35: Conducted Spurious Emission, TM 8, part 2

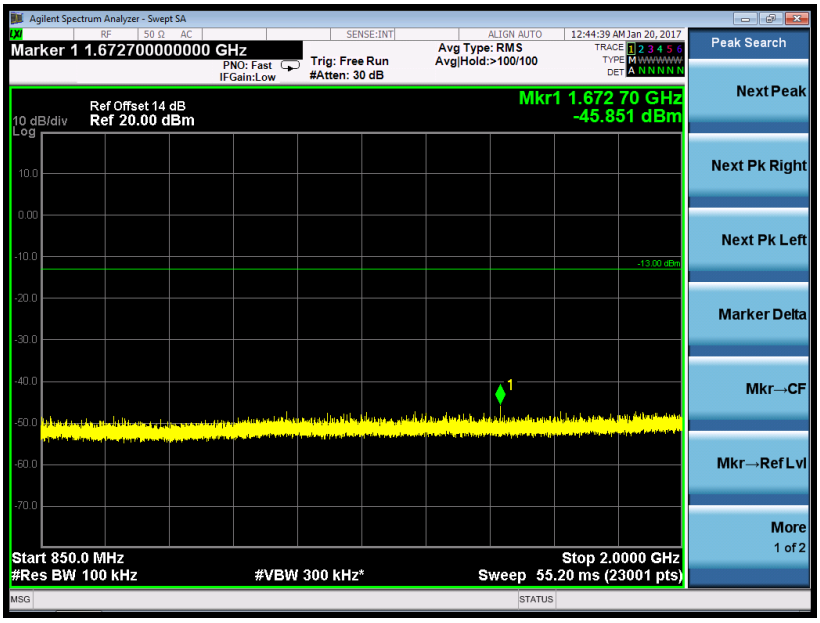


Figure 36: Conducted Spurious Emission, TM 8, part 3

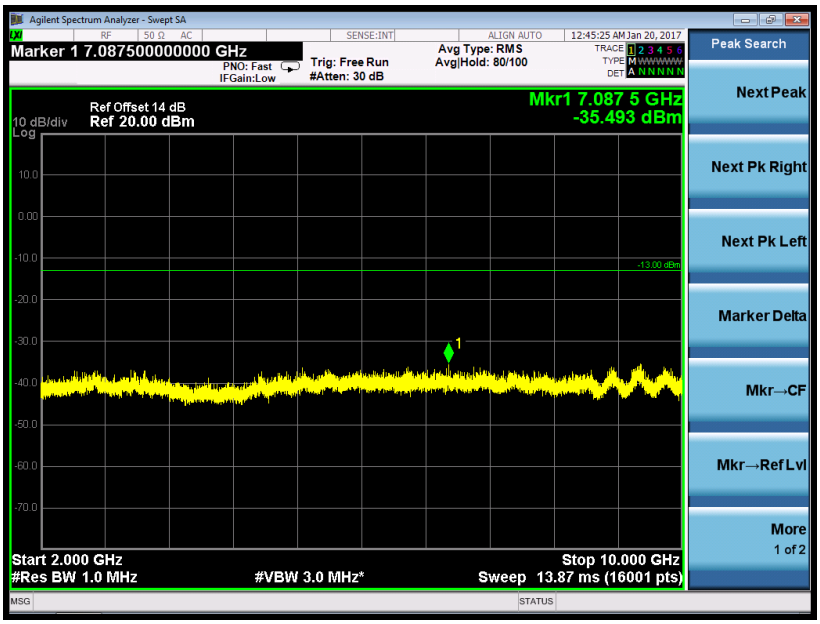


Figure 37: Conducted Spurious Emission, TM 9, part 1

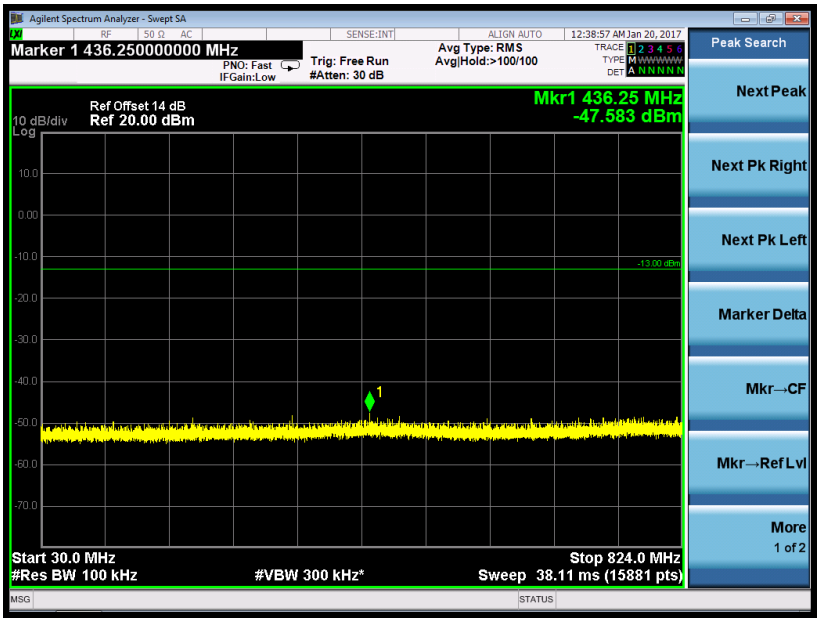


Figure 38: Conducted Spurious Emission, TM 9, part 2

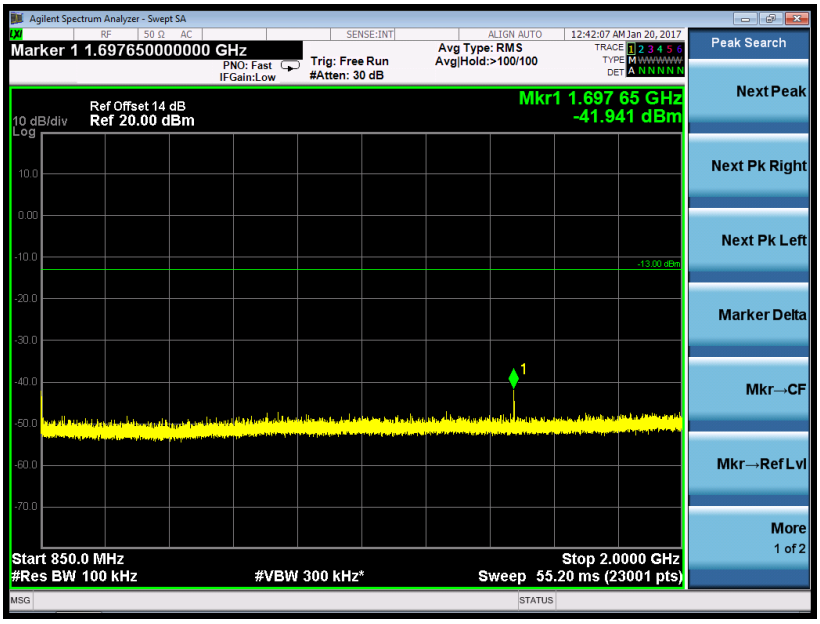


Figure 39: Conducted Spurious Emission, TM 9, part 3

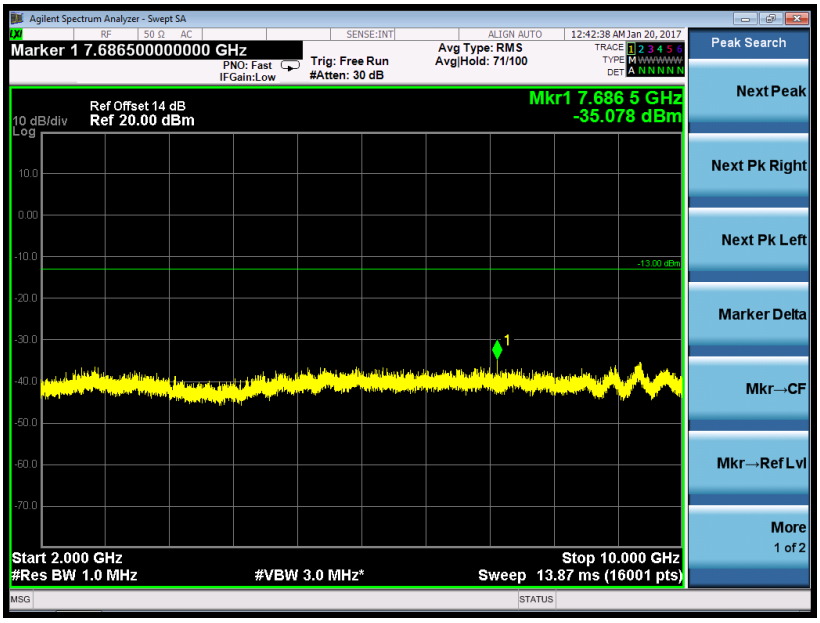


Figure 40: Conducted Spurious Emission, TM 10, part 1

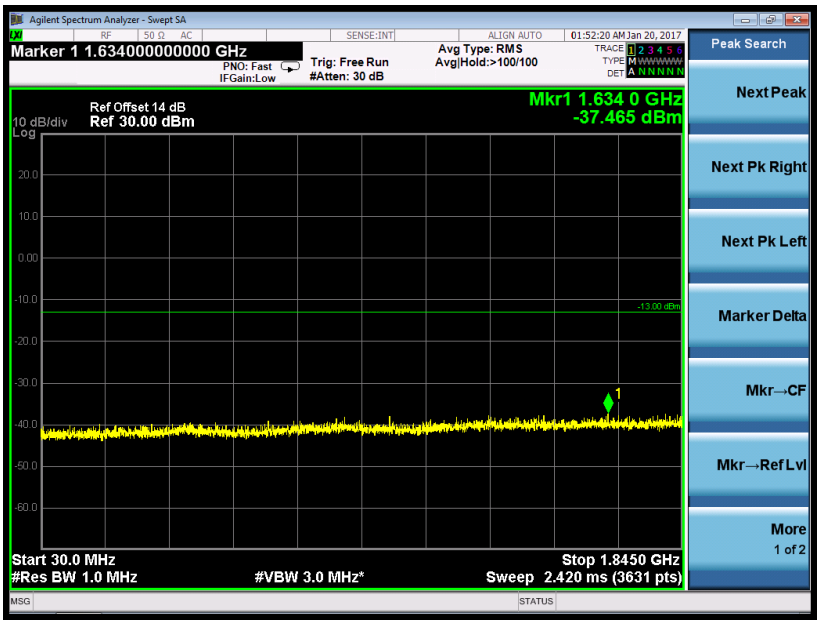


Figure 41: Conducted Spurious Emission, TM 10, part 2

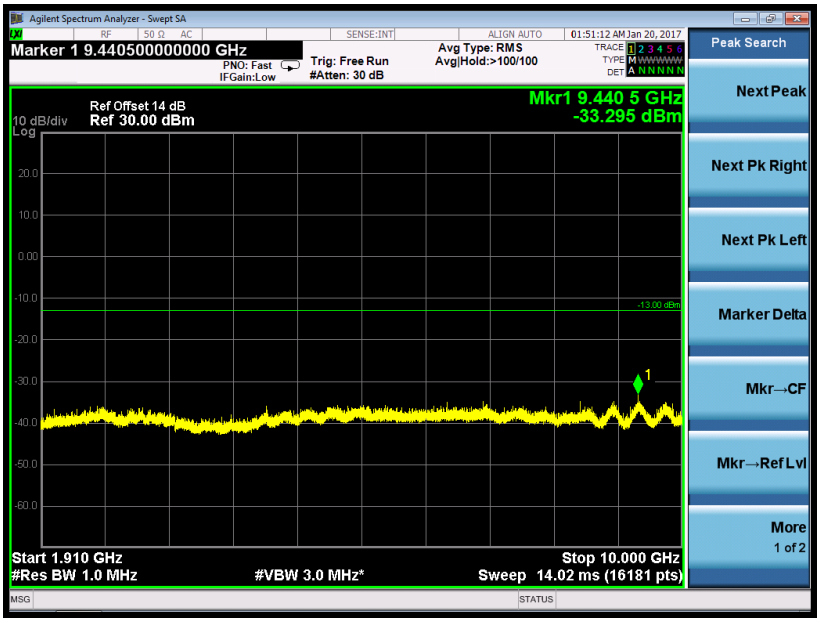


Figure 42: Conducted Spurious Emission, TM 10, part 3

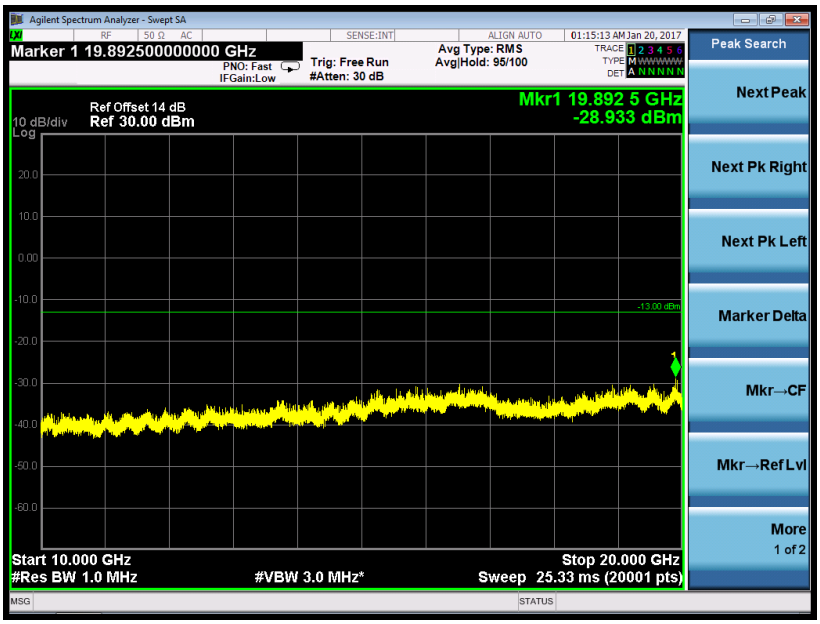


Figure 43: Conducted Spurious Emission, TM 11, part 1

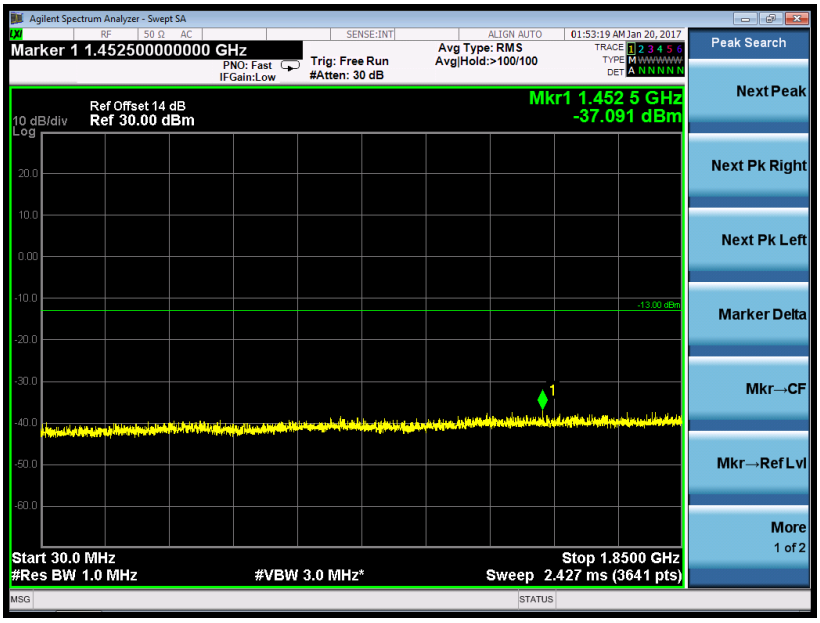


Figure 44: Conducted Spurious Emission, TM 11, part 2

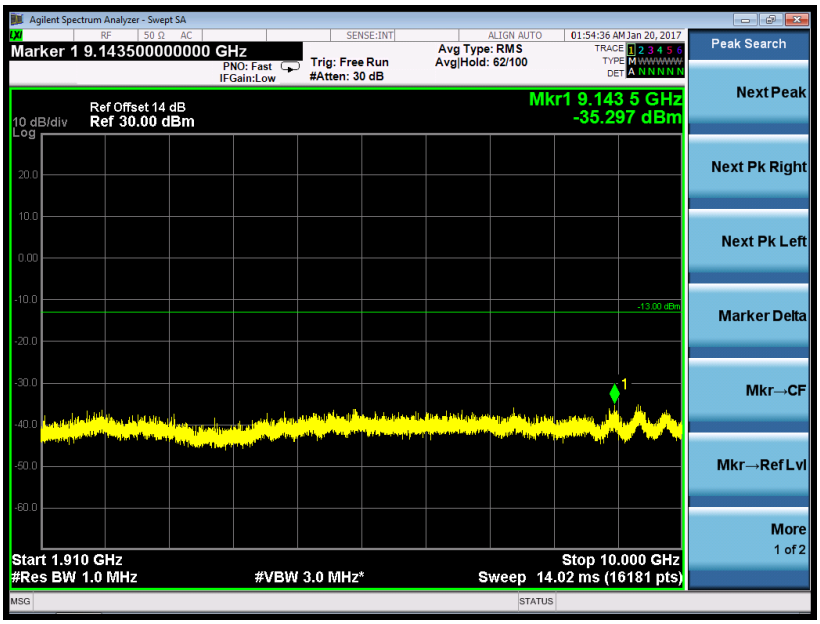


Figure 45: Conducted Spurious Emission, TM 11, part 3

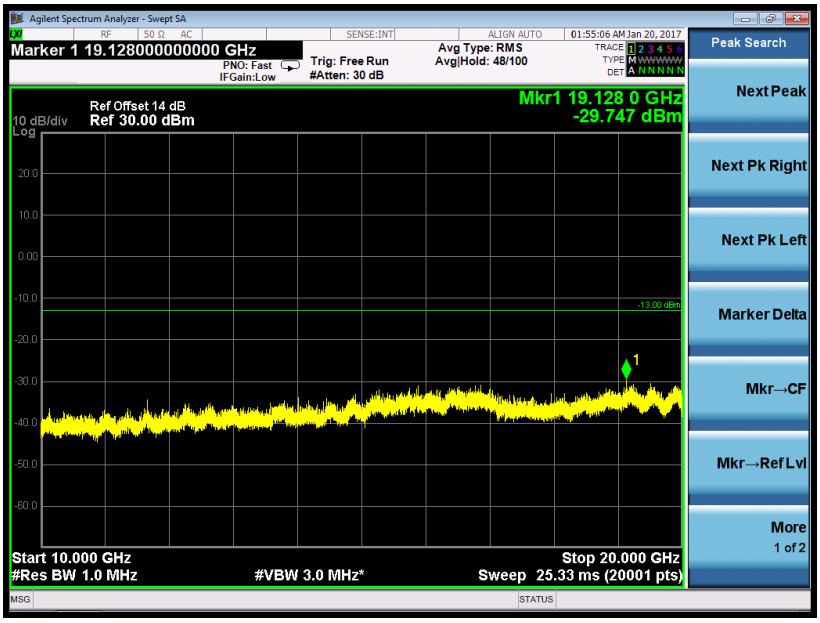


Figure 46: Conducted Spurious Emission, TM 12, part 1

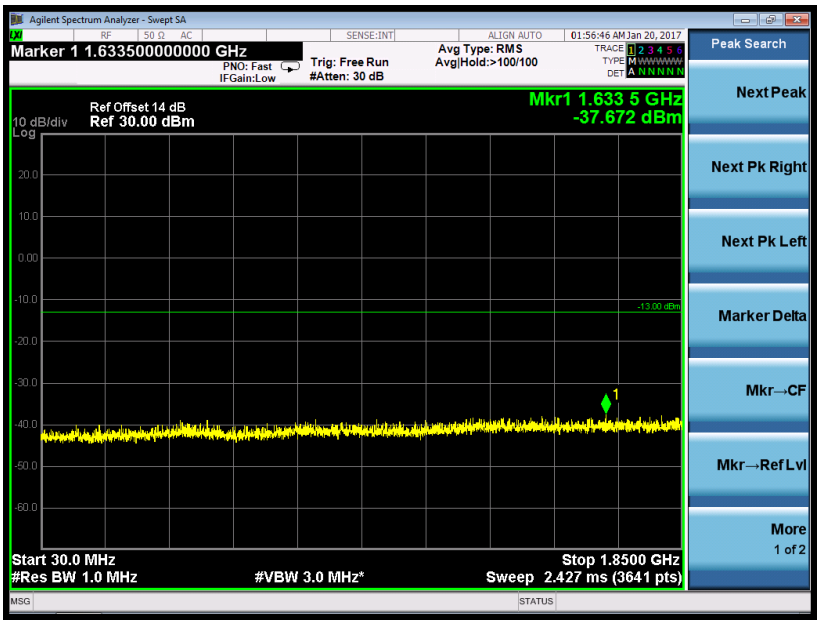


Figure 47: Conducted Spurious Emission, TM 12, part 2

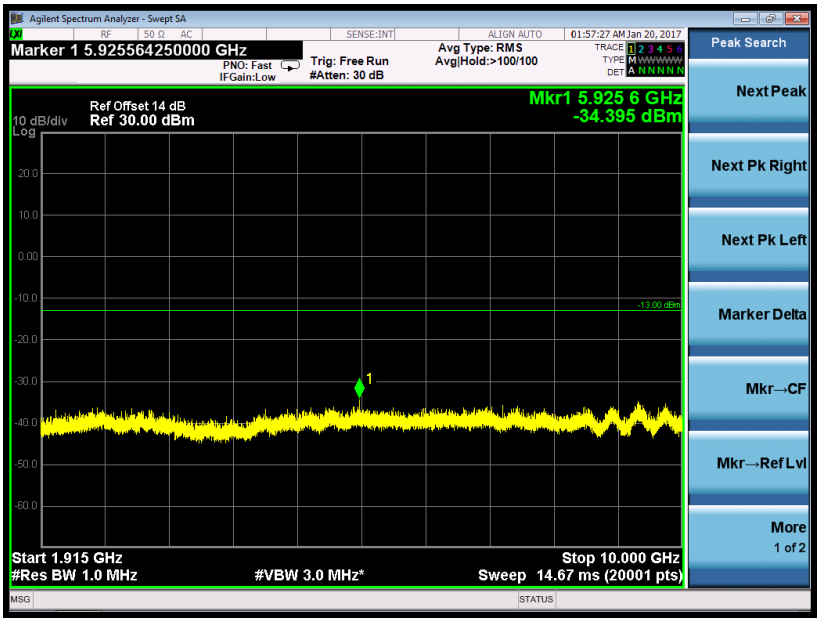
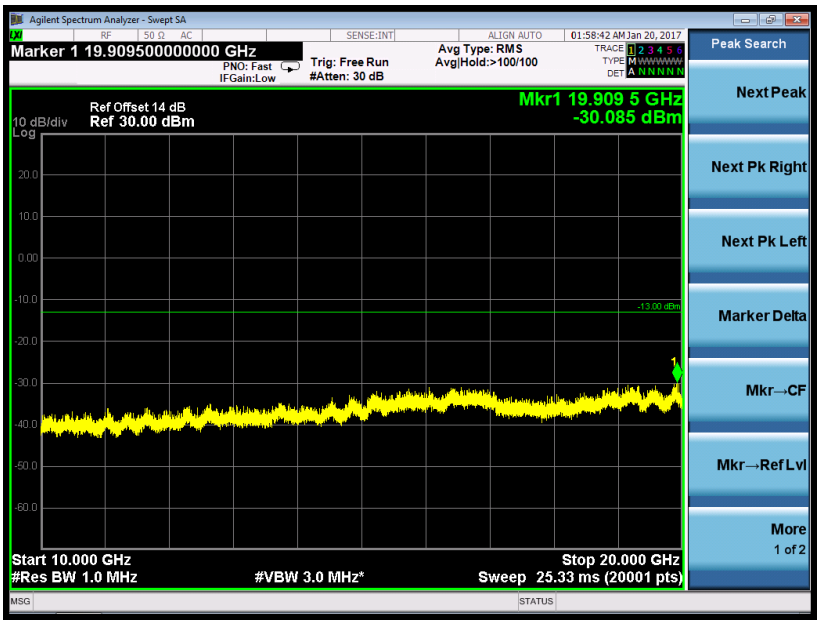


Figure 48: Conducted Spurious Emission, TM 12, part 3



5.1.5 Bandedge Spurious Emission at Antenna Terminals

RESULT: **Pass**

Date of testing	:	01.20.2017
Test standard	:	FCC Part 2.1051 FCC Part 22.917 (a) FCC Part 24.238 (a)
Limit	:	Less than -13dBm
Kind of test site	:	Shielded room

Test setup

Test Channel	:	Low / High
Operation Mode	:	TM1,TM3,TM4,TM6,TM7,TM9,TM10,TM12
Ambient temperature	:	25℃
Relative humidity	:	52%
Atmospheric pressure	:	101kPa

Figure 49: Bandedge Spurious Emission at Antenna Terminals, TM1

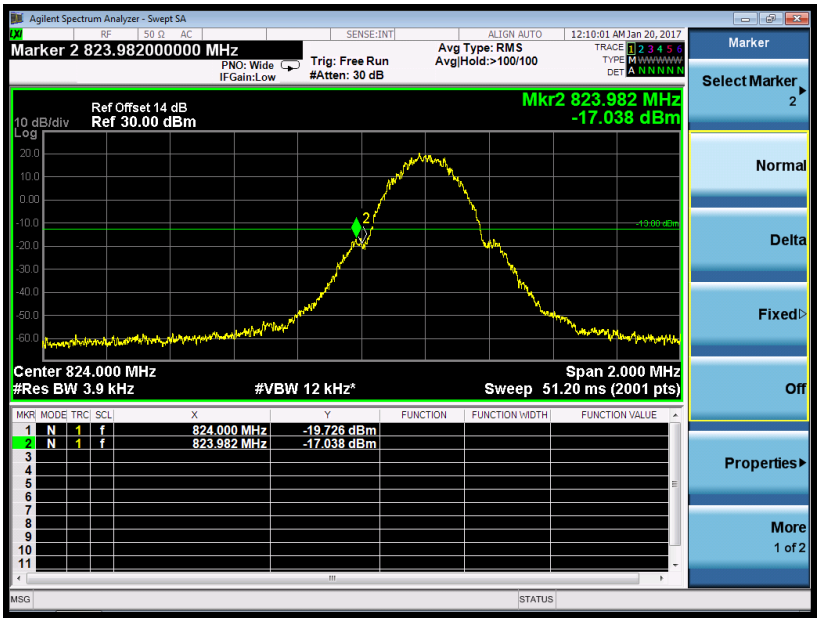


Figure 50: Bandedge Spurious Emission at Antenna Terminals, TM3

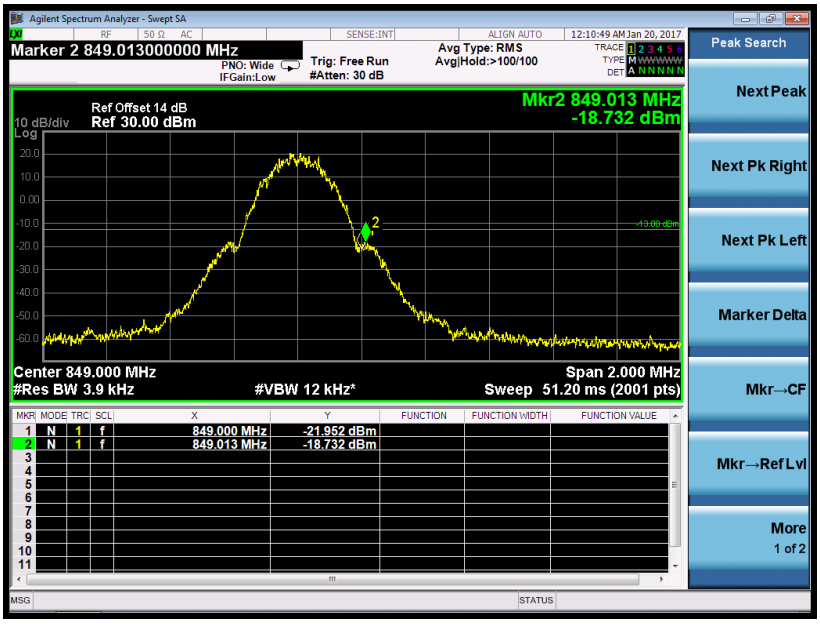
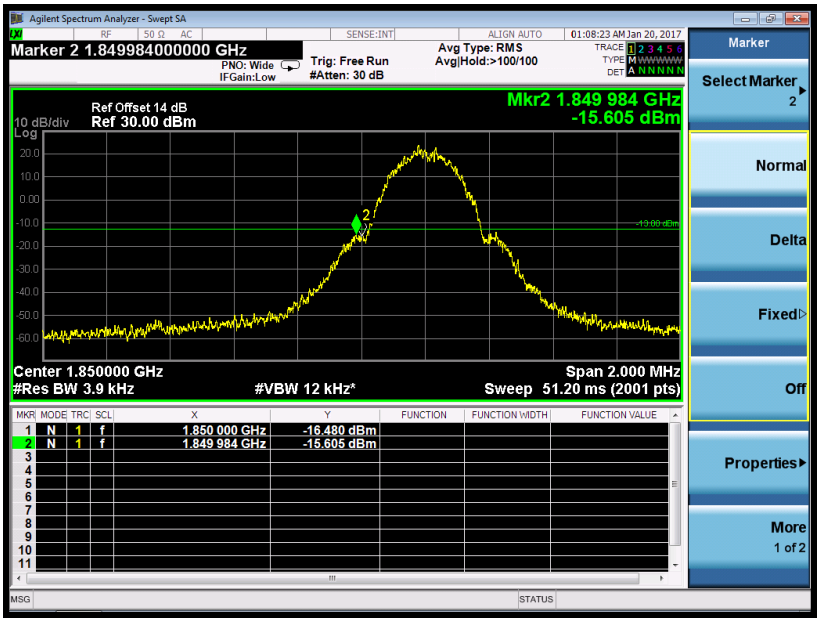


Figure 51: Bandedge Spurious Emission at Antenna Terminals, TM4



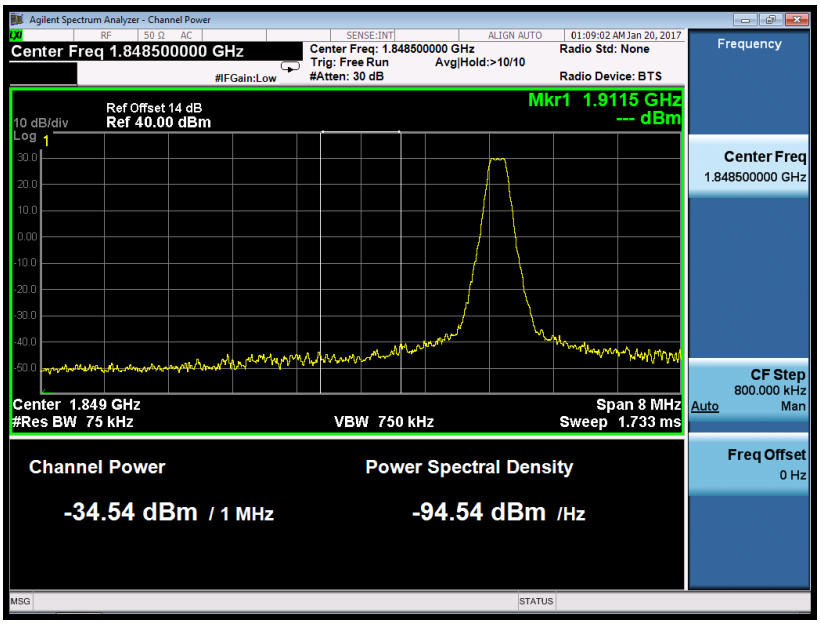
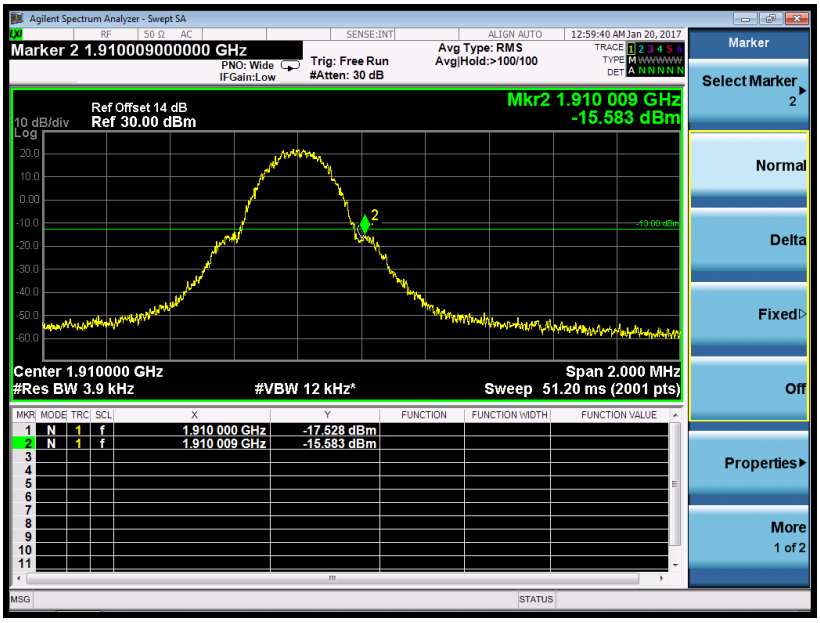


Figure 52: Bandedge Spurious Emission at Antenna Terminals, TM6



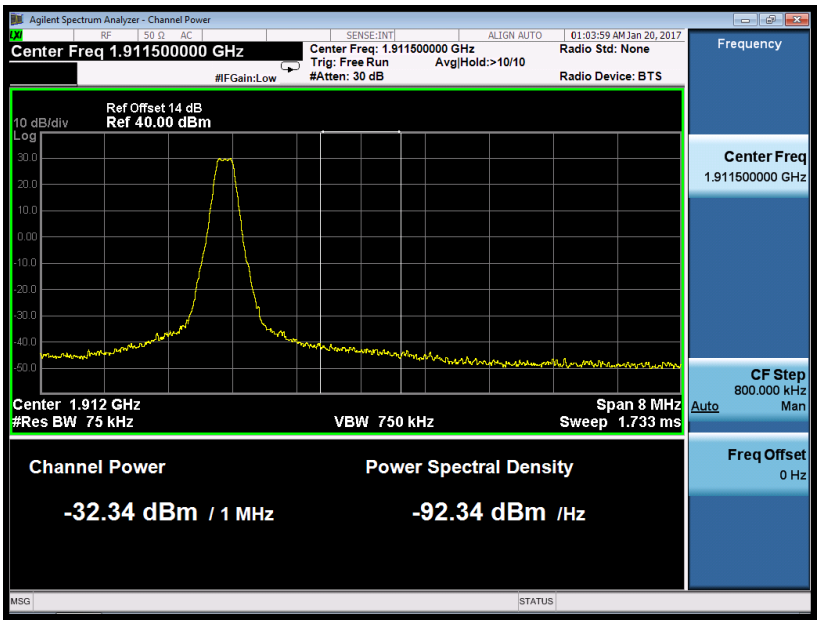


Figure 53: Bandedge Spurious Emission at Antenna Terminals, TM7

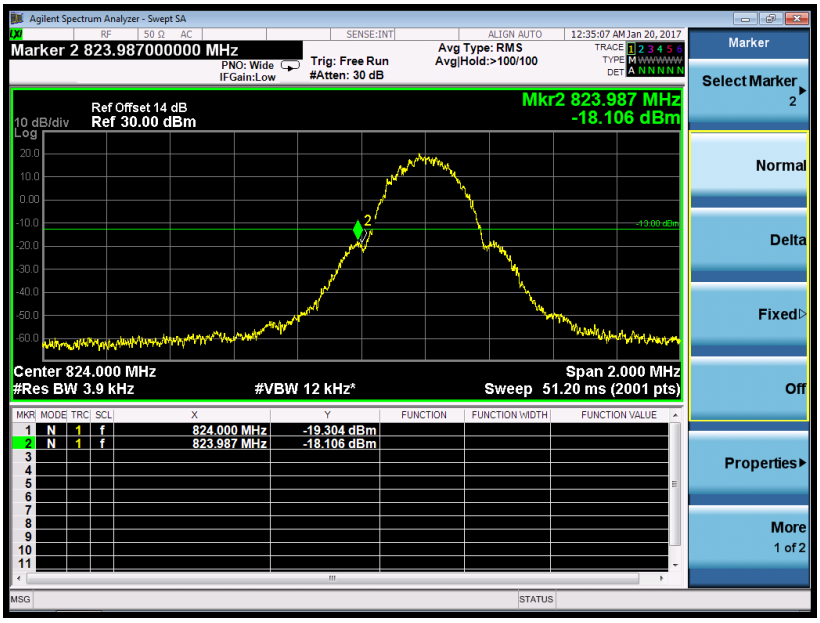


Figure 54: Bandedge Spurious Emission at Antenna Terminals, TM9

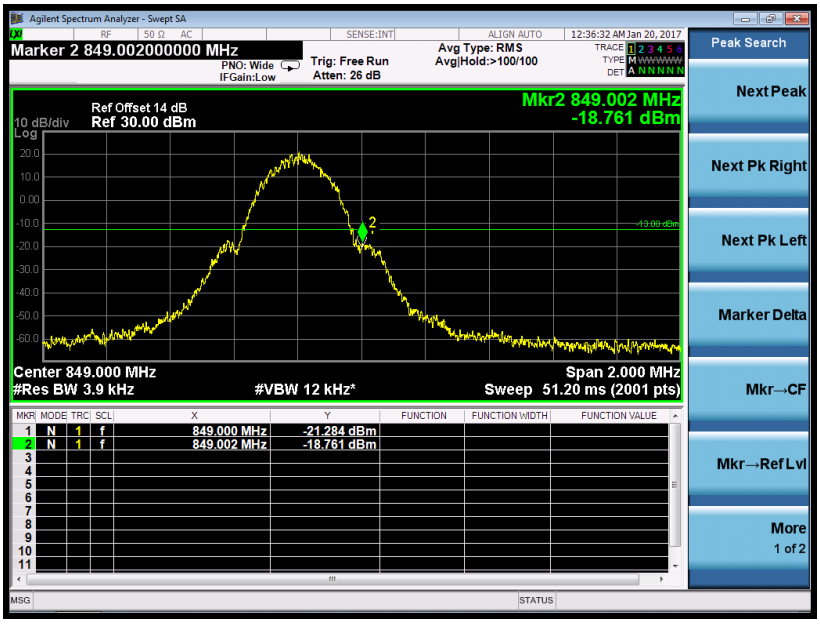
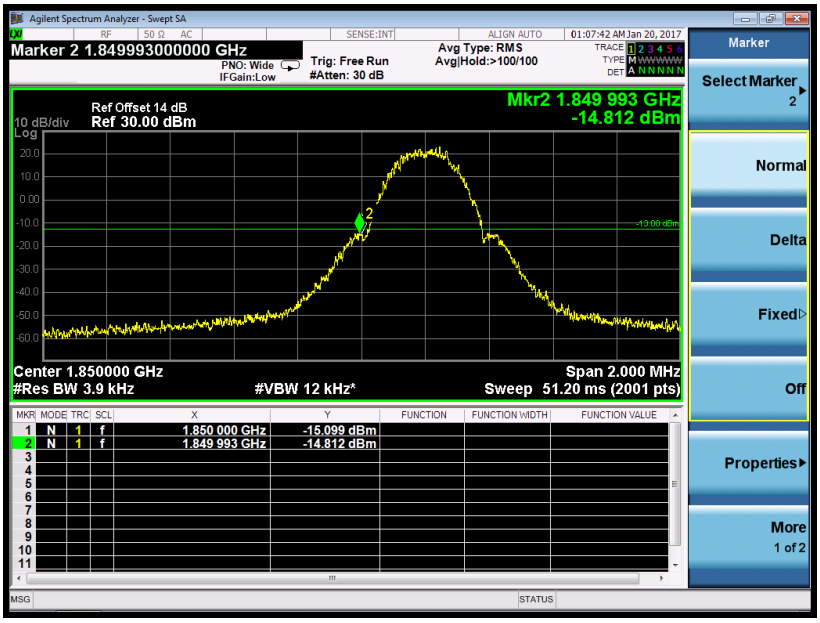


Figure 55: Bandedge Spurious Emission at Antenna Terminals, TM10



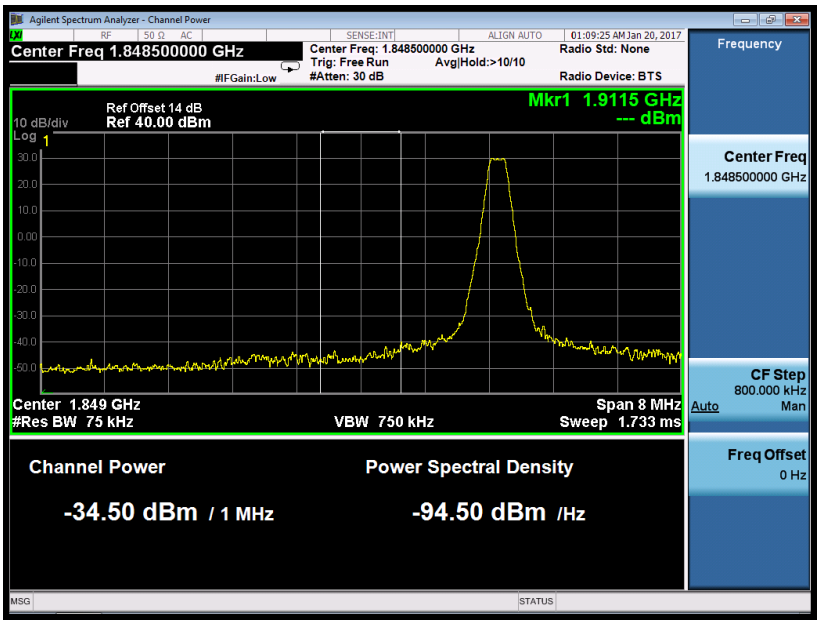
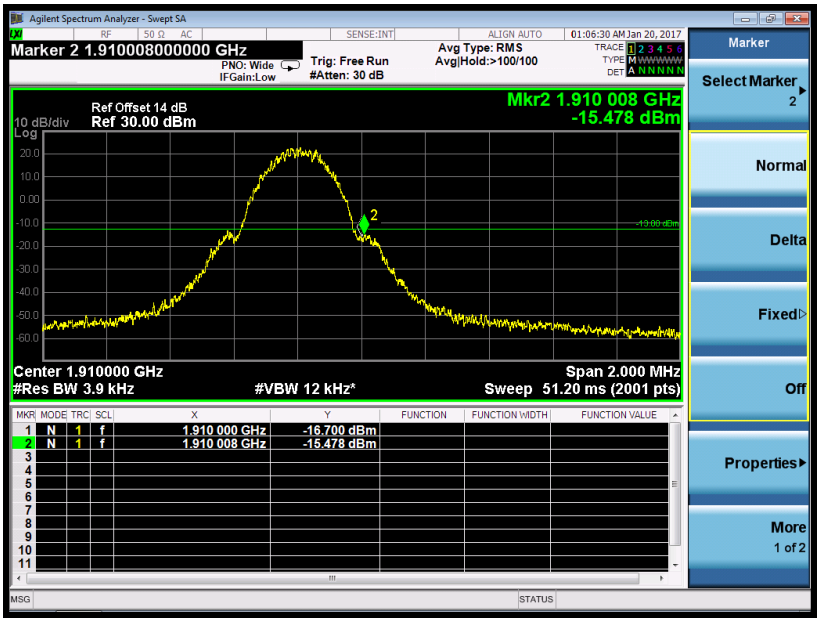
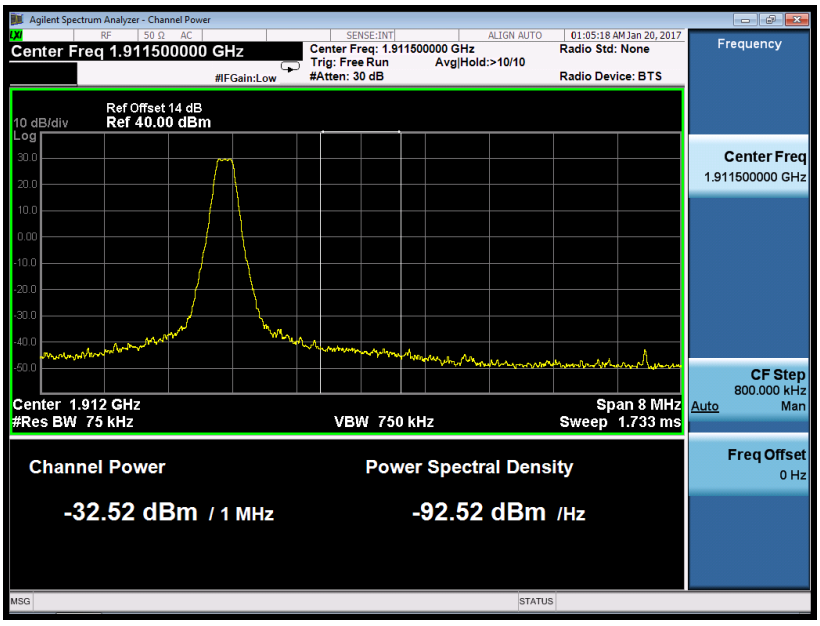


Figure 56: Bandedge Spurious Emission at Antenna Terminals, TM12





5.1.6 Radiated Spurious Emissions

RESULT: **Pass**

Date of testing : 01.20.2017
Test standard : FCC Part 2.1053
FCC Part 22.917 (a)
FCC Part 24.238 (a)
Limit : Less than -13dBm
Kind of test site : 3m Semi-anechoic Chamber & 3m Full-anechoic Chamber

Test setup

Test Channel : Low/ Middle/ High
Operation Mode : TM1 to TM12
Ambient temperature : 25℃
Relative humidity : 52%
Atmospheric pressure : 101kPa

Table 8: Radiated Spurious Emission

Test Mode	Freq. [MHz]	SG Reading [dBm]	Cable Loss [dBm]	Substitute Antenna Gain [dBd]	ERP [dBm]	Limit [dBm]	Over Limit [dB]	Ant. Pol.
TM1	3176.000	-59.042	0.930	12.010	-47.962	-13	-23.316	V
	7043.500	-49.462	1.400	11.473	-39.389	-13	-31.627	V
	1901.000	-60.708	0.705	10.449	-50.964	-13	-23.693	H
	5105.500	-55.008	1.200	12.761	-43.447	-13	-29.188	H
TM2	1901.000	-54.575	0.705	10.449	-44.831	-13	-23.693	V
	5080.000	-53.849	1.200	12.374	-42.675	-13	-29.188	V
	1892.500	-58.015	0.702	10.441	-48.276	-13	-23.693	H
	7494.000	-50.087	1.470	11.221	-40.336	-13	-29.188	H
TM3	5122.500	-54.380	1.203	12.779	-42.804	-13	-21.388	V
	10911.000	-44.288	1.810	11.545	-34.553	-13	-34.377	V
	1884.000	-60.864	0.700	10.434	-51.130	-13	-26.088	H
	5063.000	-54.245	1.195	12.716	-42.724	-13	-30.571	H
TM4	7400.500	-44.342	1.425	11.017	-34.750	-13	-23.316	V
	12016.000	-42.507	1.790	13.202	-31.095	-13	-31.627	V
	7400.500	-43.191	1.425	11.017	-33.599	-13	-23.693	H
	16750.500	-38.775	2.377	15.678	-25.474	-13	-29.188	H
TM5	7519.500	-47.876	1.470	11.279	-38.067	-13	-23.693	V
	9423.500	-44.489	1.643	11.631	-34.501	-13	-29.188	V
	7519.500	-44.646	1.470	11.279	-34.837	-13	-23.693	H
	14787.000	-40.437	2.165	12.698	-29.904	-13	-29.188	H
TM6	7638.500	-45.024	1.500	11.456	-35.068	-13	-21.388	V
	13444.000	-42.885	2.040	12.845	-32.080	-13	-34.377	V
	5726.000	-52.184	1.270	13.112	-40.342	-13	-26.088	H

	7638.500	-45.895	1.500	11.456	-35.939	-13	-30.571	H
TM7	2470.500	-56.979	0.812	10.482	-47.309	-13	-23.316	V
	3295.000	-54.682	0.960	12.747	-42.895	-13	-31.627	V
	2470.500	-52.634	0.812	10.482	-42.964	-13	-23.693	H
	3295.000	-58.064	0.960	12.870	-42.154	-13	-29.188	H
TM8	3346.000	-63.653	0.950	12.863	-51.740	-13	-23.693	V
	5020.500	-59.395	1.190	12.671	-47.914	-13	-29.188	V
	1671.500	-60.498	0.667	9.934	-51.231	-13	-23.693	H
	5020.500	-54.117	1.190	12.671	-42.636	-13	-29.188	H
TM9	2547.000	-58.906	0.825	10.680	-49.051	-13	-21.388	V
	3397.000	-54.572	0.955	12.955	-42.572	-13	-34.377	V
	3397.000	-57.542	0.966	12.955	-45.553	-13	-26.088	H
	5097.000	-55.381	1.200	12.752	-43.829	-13	-30.571	H
TM10	7400.500	-47.827	1.425	11.017	-38.235	-13	-23.316	V
	10894.000	-44.542	1.800	11.550	-34.792	-13	-31.627	V
	7400.500	-46.319	1.425	11.017	-36.727	-13	-23.693	H
	10894.000	-43.726	1.800	11.550	-33.976	-13	-29.188	H
TM11	7519.500	-46.138	1.470	11.279	-36.329	-13	-23.693	V
	13750.000	-40.928	2.130	12.215	-30.843	-13	-29.188	V
	7519.500	-45.379	1.470	11.279	-35.570	-13	-23.693	H
	12067.000	-42.653	1.905	13.271	-31.287	-13	-29.188	H
TM12	7638.500	-47.220	1.500	11.456	-37.264	-13	-21.388	V
	12058.500	-42.998	1.913	13.273	-31.638	-13	-34.377	V
	5726.000	-53.130	1.270	13.112	-41.288	-13	-26.088	H
	7638.500	-44.975	1.500	11.456	-35.019	-13	-30.571	H

Note:

1. Spurious emissions below 30MHz and within 30-1000MHz were found more than 20dB below limit line.
2. ERP (dBm) = SG Reading (dBm) - Cable Loss (dB) + Substitute Antenna Gain (dBd)

5.1.7 Frequency Stability

RESULT: **Pass**

Date of testing : 01.20.2017
Test standard : FCC Part2.1055
FCC Part 22.355
FCC Part 24.235
Limit : ±2.5ppm for FCC Part 22.355
Within assigned bands for FCC Part 24.235
Kind of test site : Shielded room

Test setup

Test Channel : Middle
Operation Mode : TM2, TM5, TM8, TM11
Ambient temperature : 25℃
Relative humidity : 52%
Atmospheric pressure : 101kPa

Table 9: Frequency Stability, TM2

Voltage [%]	Power [VDC]	TEMP [%]	Frequency [Hz]	Freq. Dev [Hz]	Deviation [%]
100%	3.7	+20(Ref)	836,400,000	75	0.00000897
		-30	836,400,000	68	0.00000813
		-20	836,400,000	-71	0.00000849
		-10	836,400,000	65	0.00000777
		0	836,400,000	68	0.00000813
		+10	836,400,000	64	0.00000765
		+20	836,400,000	-69	0.00000825
		+30	836,400,000	-72	0.00000861
		+40	836,400,000	-59	0.00000705
		+50	836,400,000	62	0.00000741
115%	4.2	+20	836,400,000	-63	0.00000753
BAT.ENDPOINT	3.6	+20	836,400,000	-62	0.00000741

Table 10: Frequency Stability, TM5

Voltage [%]	Power [VDC]	TEMP [%]	Frequency [Hz]	Freq. Dev [Hz]	Deviation [%]
100%	3.7	+20(Ref)	1,880,000,000	42	0.00000223
		-30	1,880,000,000	-43	0.00000229
		-20	1,880,000,000	52	0.00000277
		-10	1,880,000,000	43	0.00000229
		0	1,880,000,000	-41	0.00000218
		+10	1,880,000,000	49	0.00000261
		+20	1,880,000,000	-39	0.00000207
		+30	1,880,000,000	42	0.00000223
		+40	1,880,000,000	-52	0.00000277
		+50	1,880,000,000	39	0.00000207
115%	4.2	+20	1,880,000,000	48	0.00000255
BAT.ENDPOINT	3.6	+20	1,880,000,000	-42	0.00000223

Table 11: Frequency Stability, TM8

Voltage [%]	Power [VDC]	TEMP [%]	Frequency [Hz]	Freq. Dev [Hz]	Deviation [%]
100%	3.7	+20(Ref)	836,400,000	66	0.00000789
		-30	836,400,000	71	0.00000849
		-20	836,400,000	-54	0.00000646
		-10	836,400,000	76	0.00000909
		0	836,400,000	-68	0.00000813
		+10	836,400,000	72	0.00000861
		+20	836,400,000	45	0.00000538
		+30	836,400,000	39	0.00000466
		+40	836,400,000	-57	0.00000681
		+50	836,400,000	-68	0.00000813
115%	4.2	+20	836,400,000	62	0.00000741
BAT.ENDPOINT	3.6	+20	836,400,000	-56	0.00000670

Table 12: Frequency Stability, TM11

Voltage [%]	Power [VDC]	TEMP [%]	Frequency [Hz]	Freq. Dev [Hz]	Deviation [%]
100%	3.7	+20(Ref)	1,880,000,000	26	0.00000138
		-30	1,880,000,000	68	0.00000362
		-20	1,880,000,000	73	0.00000388
		-10	1,880,000,000	-41	0.00000218
		0	1,880,000,000	-64	0.00000340
		+10	1,880,000,000	69	0.00000367
		+20	1,880,000,000	35	0.00000186
		+30	1,880,000,000	-63	0.00000335
		+40	1,880,000,000	-54	0.00000287
		+50	1,880,000,000	53	0.00000282
115%	4.2	+20	1,880,000,000	69	0.00000367
BAT.ENDPOINT	3.6	+20	1,880,000,000	-61	0.00000324

6. List of Tables

7. List of Figures