

4.2 FIELD STRENGTH MEASUREMENT

4.2.1 LIMITS OF FIELD STRENGTH MEASUREMENT

The field strength of any emissions within the permitted 200kHz band shall not exceed 250 uV/meter at 3 meters.

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
88-108	250	3

NOTE:

Emission level (dBuV/m) = 20 log Emission level (uV/m).

4.2.2 TEST INSTRUMENTS

Device	Model No.	Serial No.	Last Cal.	Next Cal
Cable 1	8214	CBL-006	02/19/05	02/19/06
Cable 2	8268	CBL-002	02/19/05	02/19/06
ROHDE & SCHWARZ EMI Test Receiver	ESIB 40	100201	01/23/04	01/23/06
Tower 1	EMCO 1050	9310-1786	N/A	N/A
Turntable 1	EMCO 1060	9409-1753	N/A	N/A
Bilog Antenna	CBL6112B	2604	09/03/04	11/04/05
Shielded Semi-Anechoic Chamber	RANTEC	N/A	02/11/05	02/11/06
Temperature and Humidity Recorder	Dickson TH8-24C	5097755	09/16/03	09/16/05

4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

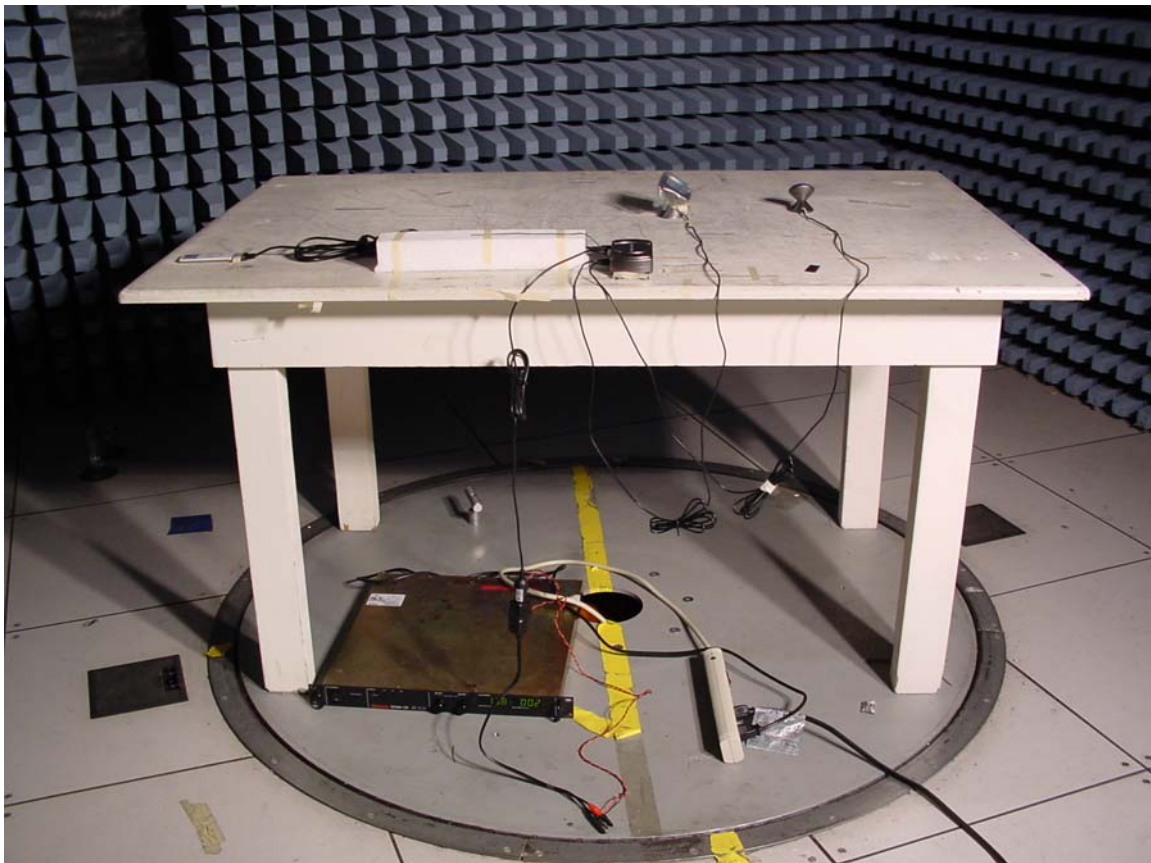
NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 3 kHz, and video bandwidth is 10 kHz for Peak detection (PK) at frequency ranging from 87-109 MHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 3 kHz, and video bandwidth is 300 Hz for Average detection (AV) at frequency ranging from 87-109 MHz.
4. The EUT must be tested for three orthogonal positions which are X, Y, and Z.
5. At each frequency voltage 13.8VDC was used.

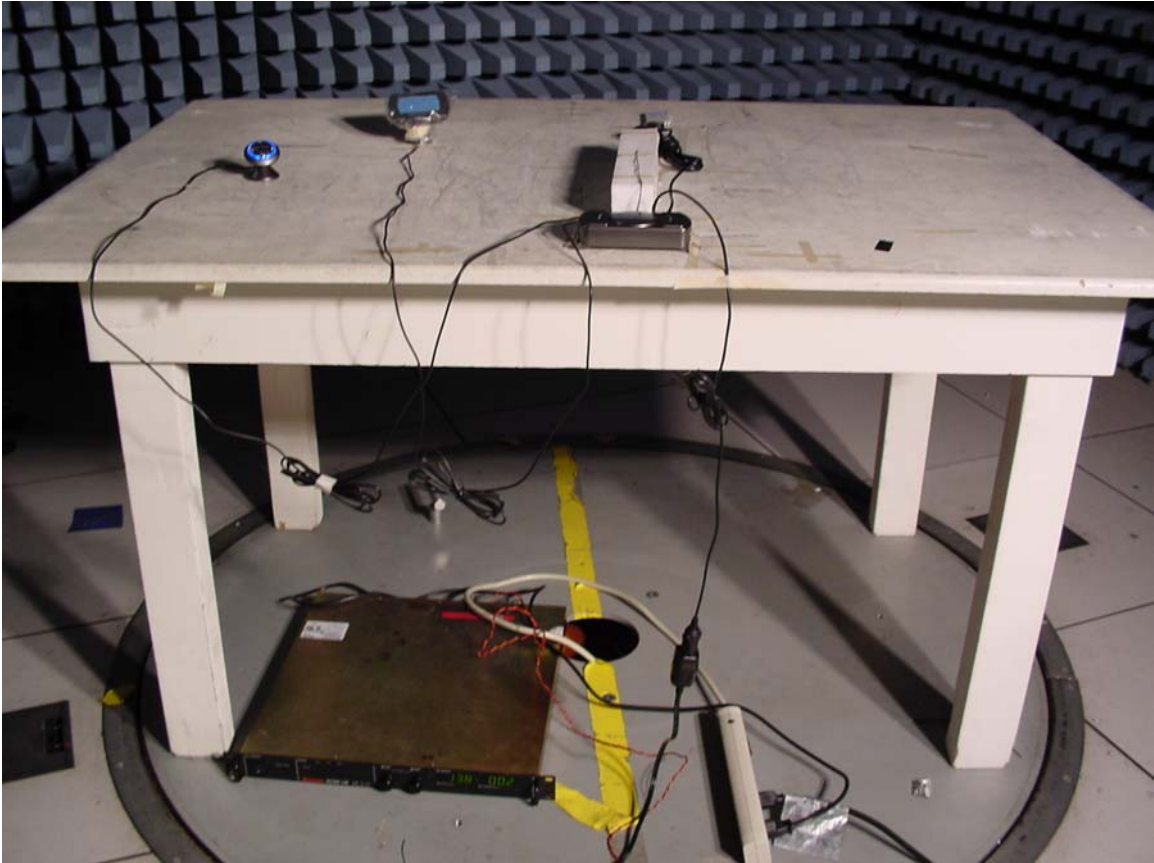
4.2.4 DEVIATION FROM TEST STANDARD

No deviation

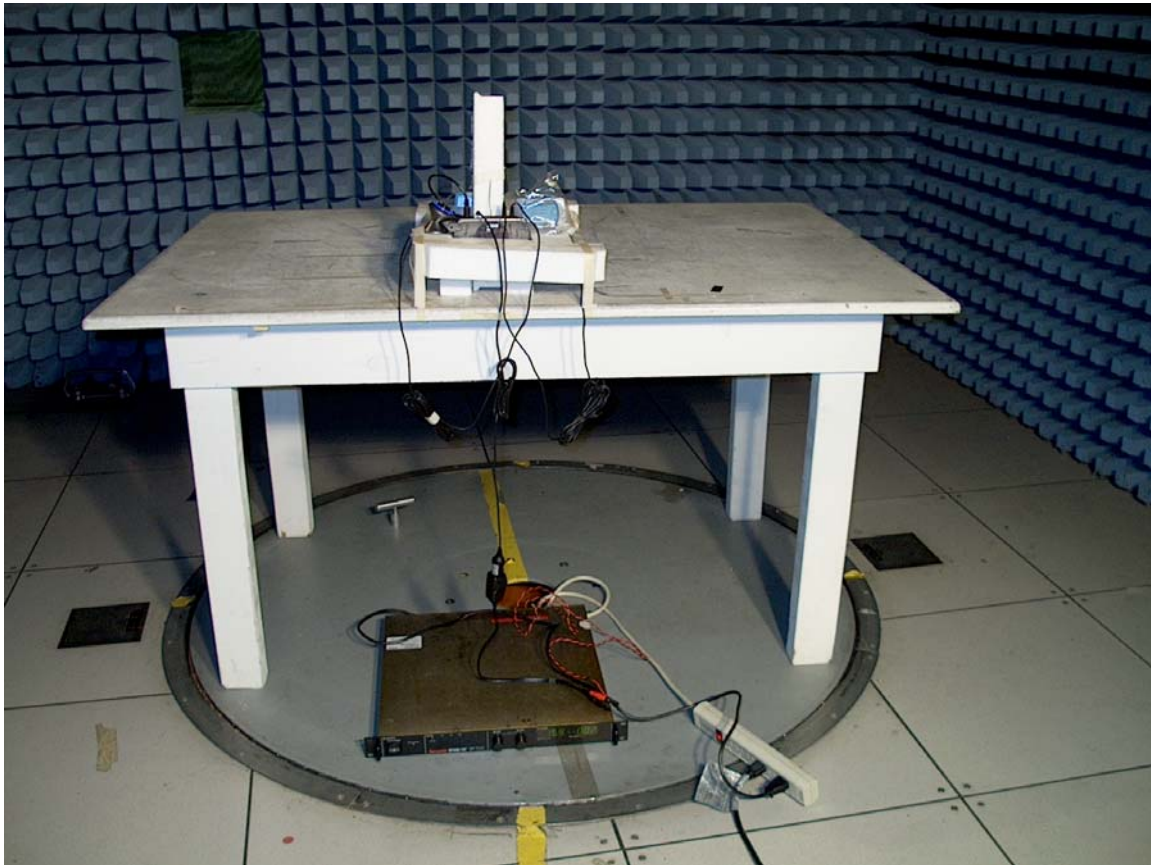
4.2.5 TEST SETUP



Field Strength Test
EUT placed at X position
(Front View)



Field Strength Test
EUT placed at Y position
(Front View)



Field Strength Test
EUT placed at Z position
(Front View)

4.2.6 EUT OPERATING CONDITIONS

The EUT is continuously linked with the iPod at every channel frequency. There are three channel frequencies that were tested at 88.1MHz, 99.9MHz, and 107.9MHz. During the operating condition, voltage 13.8VDC were tested. The EUT is tested for three orthogonal positions X, Y, and Z. The typical modulation was used.

This program was repeated continuously for the duration of the testing. The above mentioned set-up allowed the article to perform sufficiently for the test purposes and required time, i.e. produce radiated emissions.

**4.2.7 TEST RESULTS (EUT Position X at 88.1, 99.9, and 107.9 MHz)****EUT Position X****Frequency 88.1 MHz****Horizontal****Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Horizontal Polarization

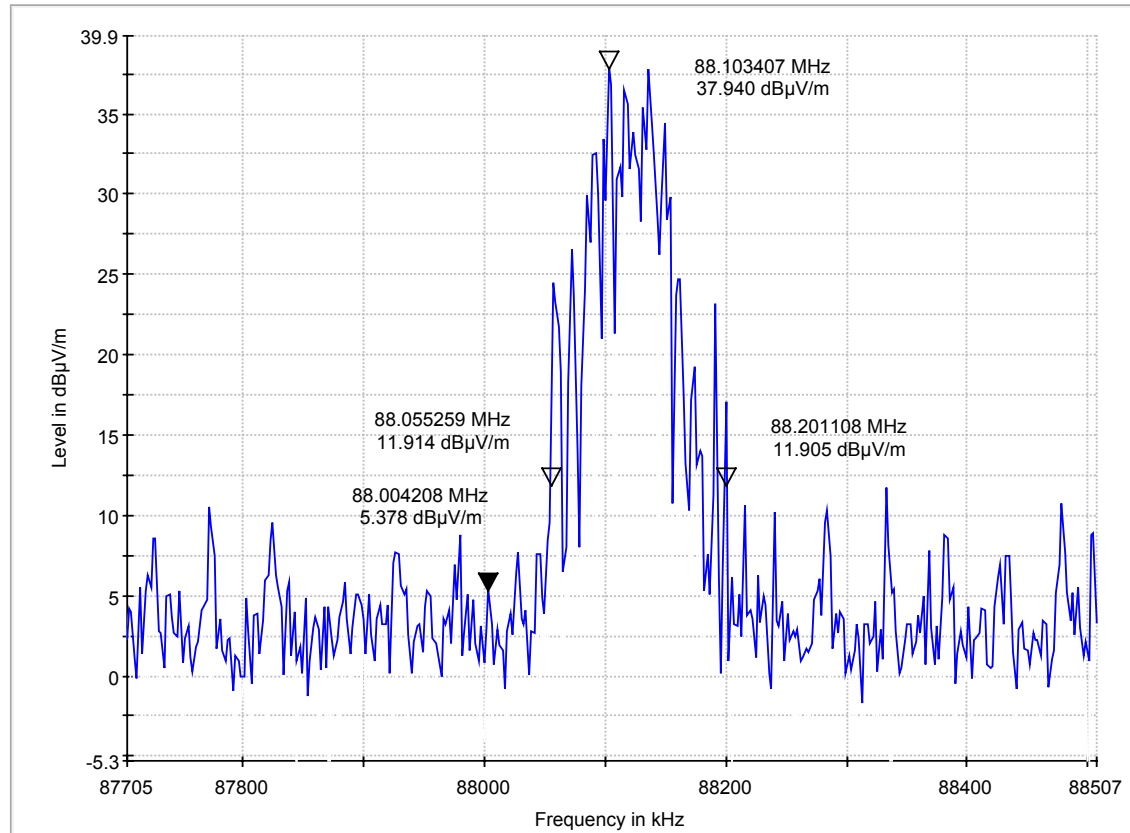
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.103407	37.9	68.0	-30.1	3.0	10.0	X	211.0	360.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Horizontal Polarization

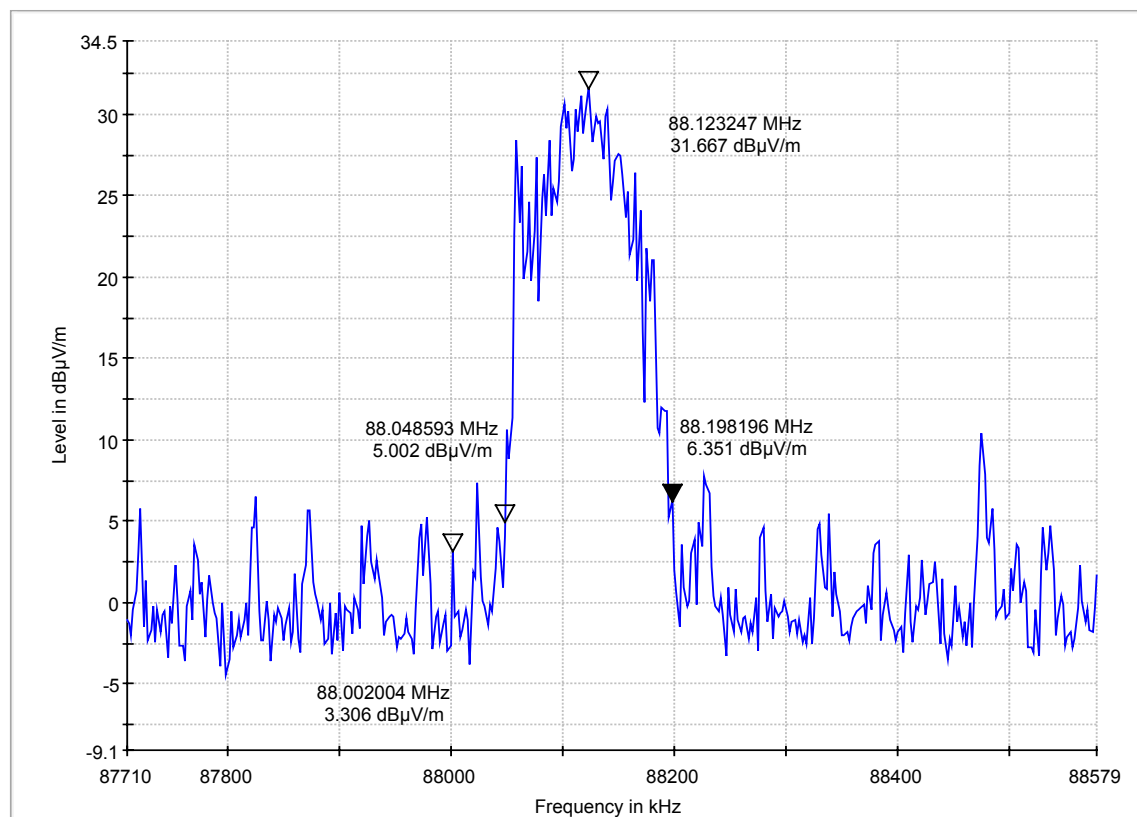
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.123247	31.6	48.0	-16.4	3.0	300.0	X	211.0	360.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Vertical Polarization

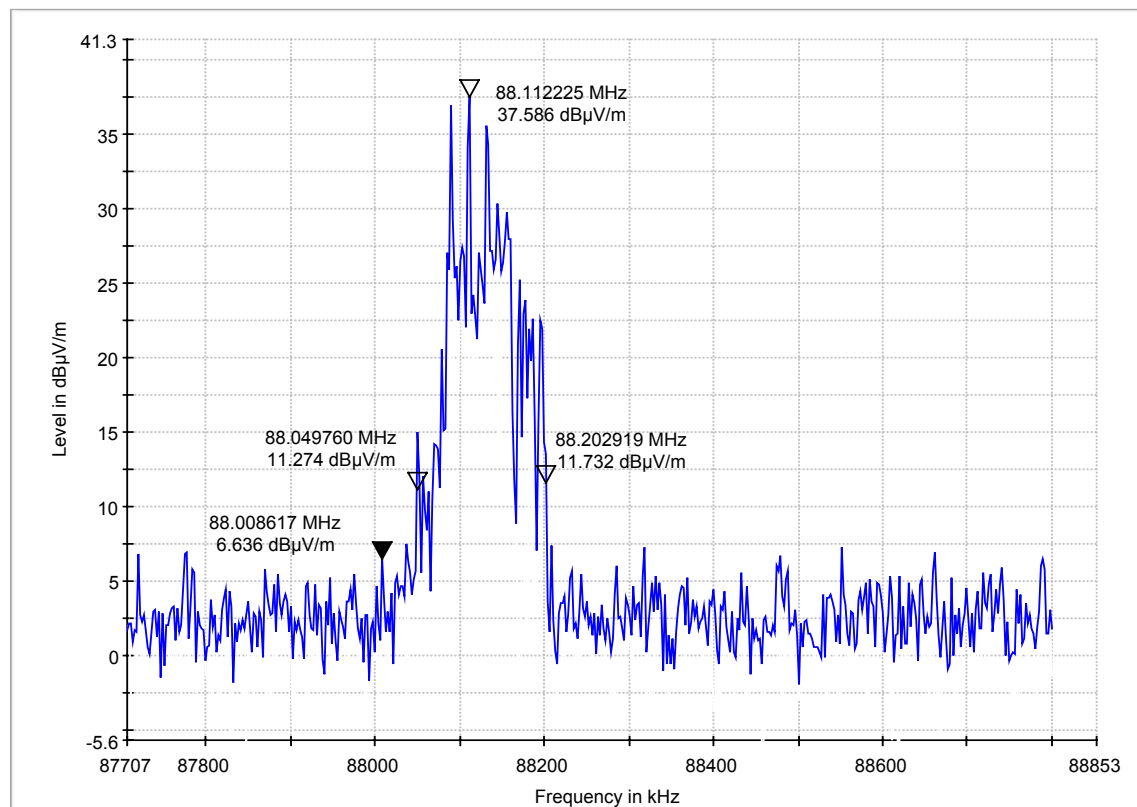
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.112225	37.5	68.0	-30.5	3.0	10.0	X	19.0	95.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Vertical Polarization

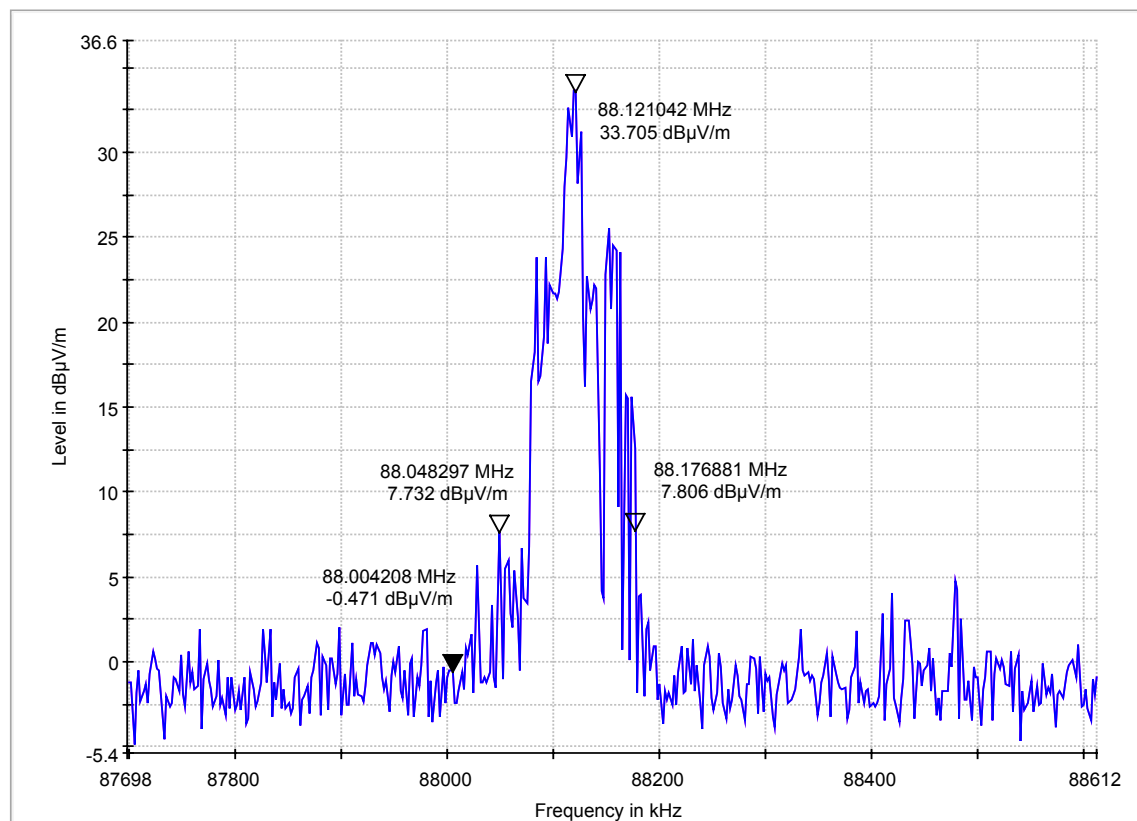
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.121042	33.7	48.0	-14.3	3.0	300.0	X	19.0	95.0	V	PASS



Frequency 99.9 MHz

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Horizontal Polarization

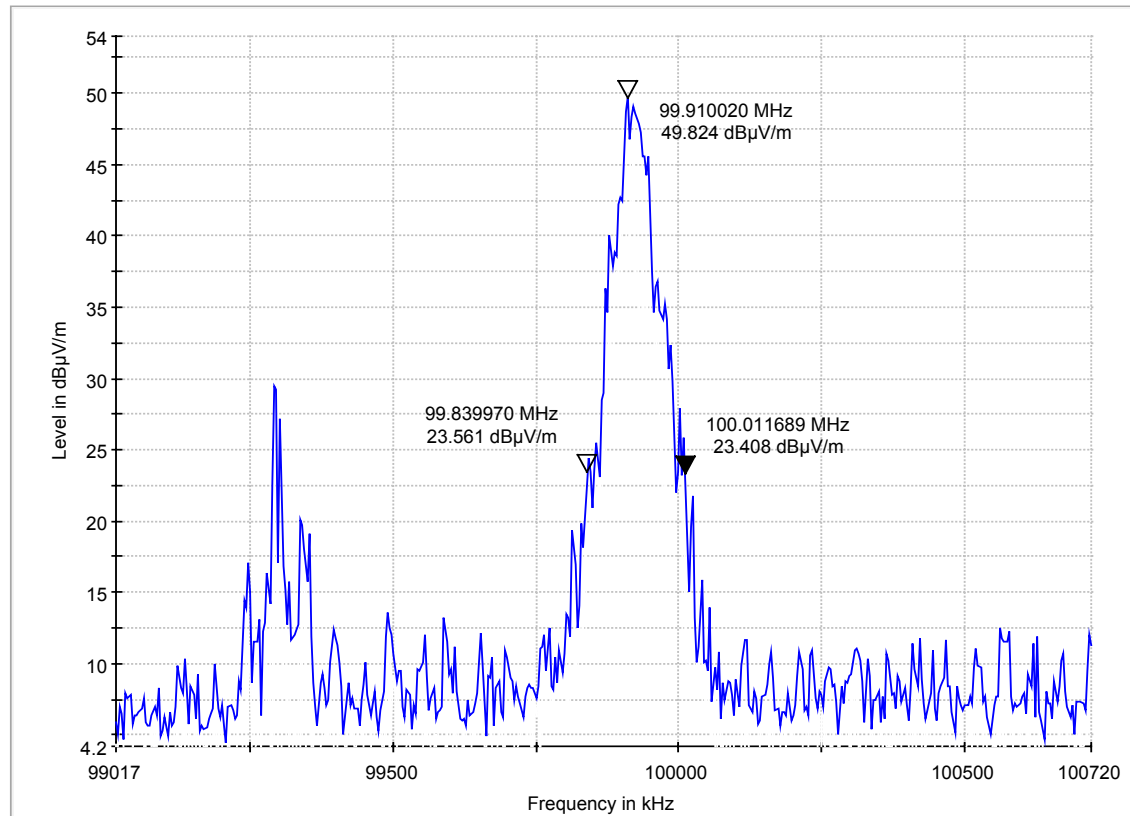
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.910020	49.8	68.0	-18.2	3.0	10.0	X	320.0	247.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Horizontal Polarization

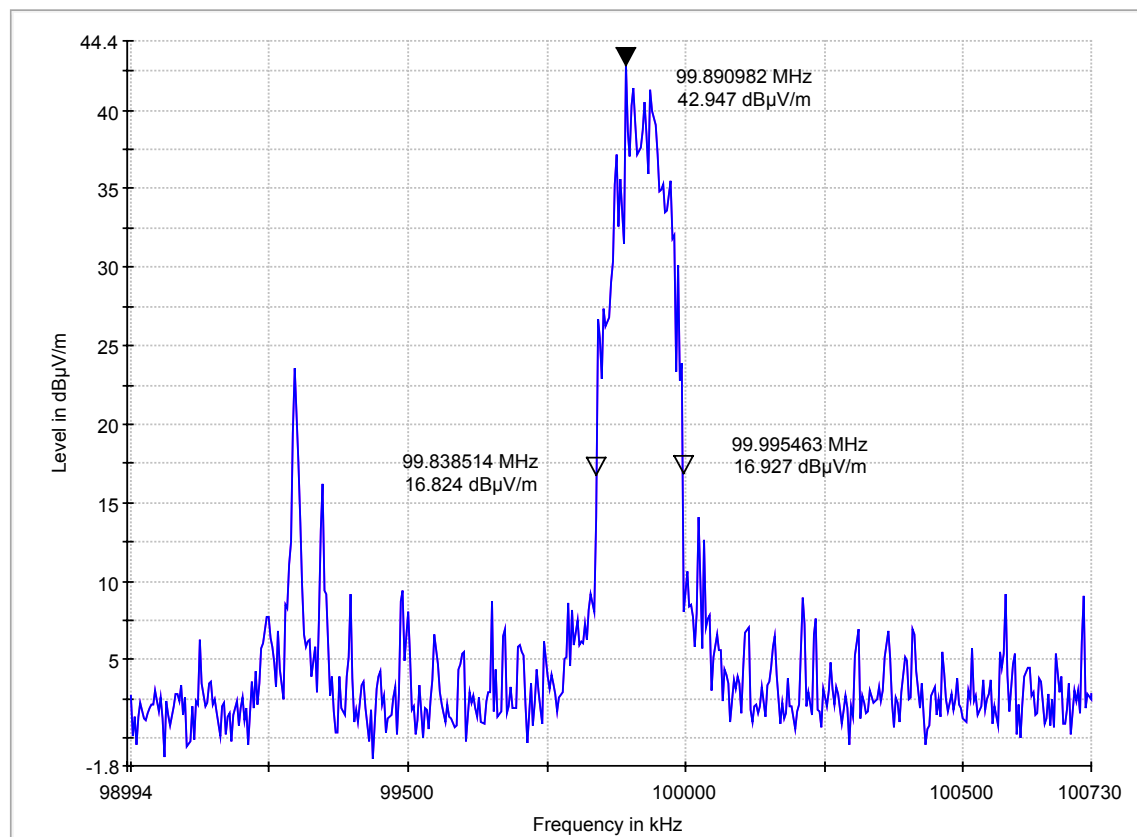
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.890982	42.9	48.0	-5.1	3.0	300.0	X	320.0	247.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Vertical Polarization

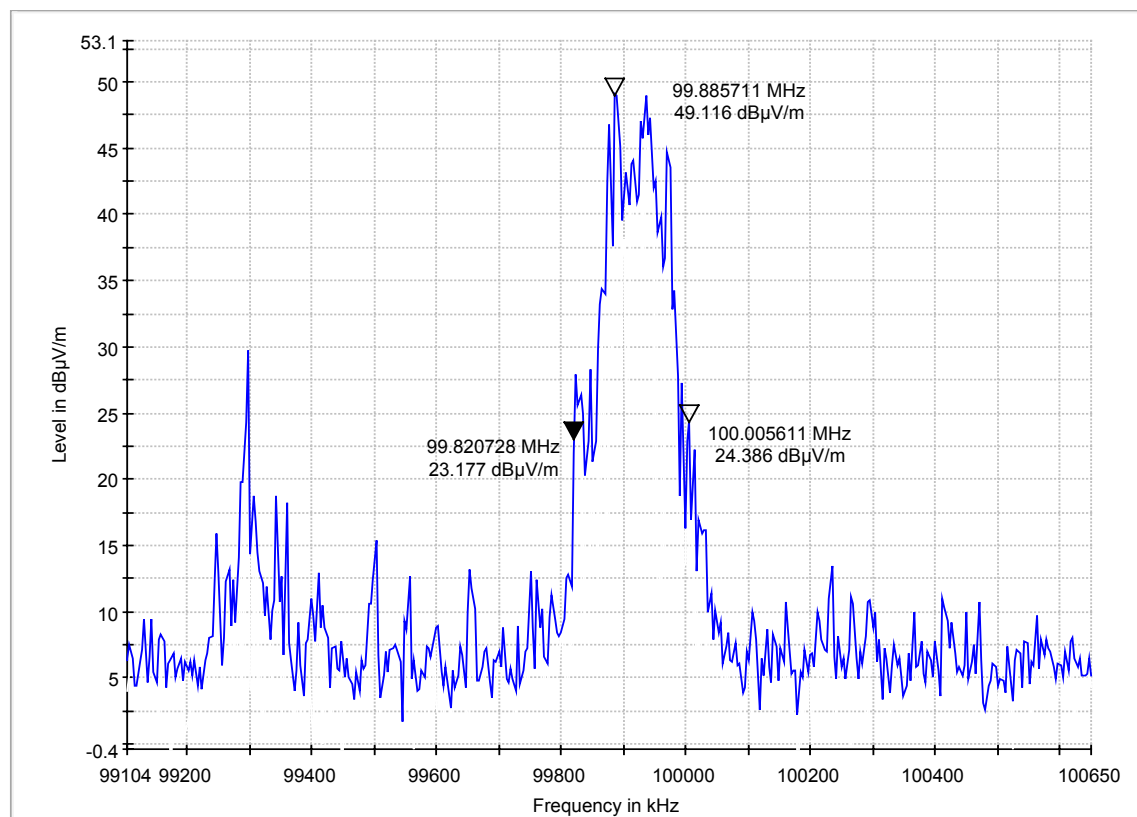
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.885711	49.1	68.0	-18.9	3.0	10.0	X	299.0	95.0	V	PASS

**Test Information**

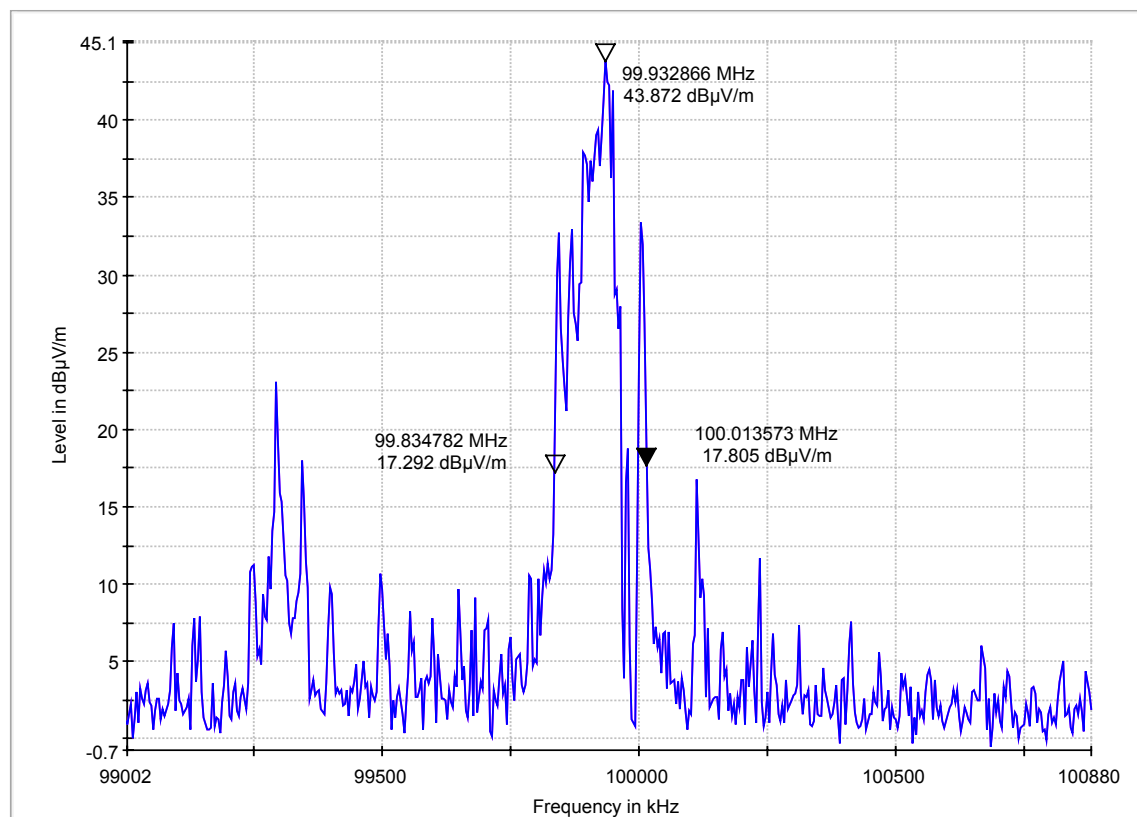
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Vertical Polarization

Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.932866	43.8	48.0	-4.2	3.0	300.0	X	299.0	95.0	V	PASS



Frequency 107.9 MHz

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Horizontal Polarization

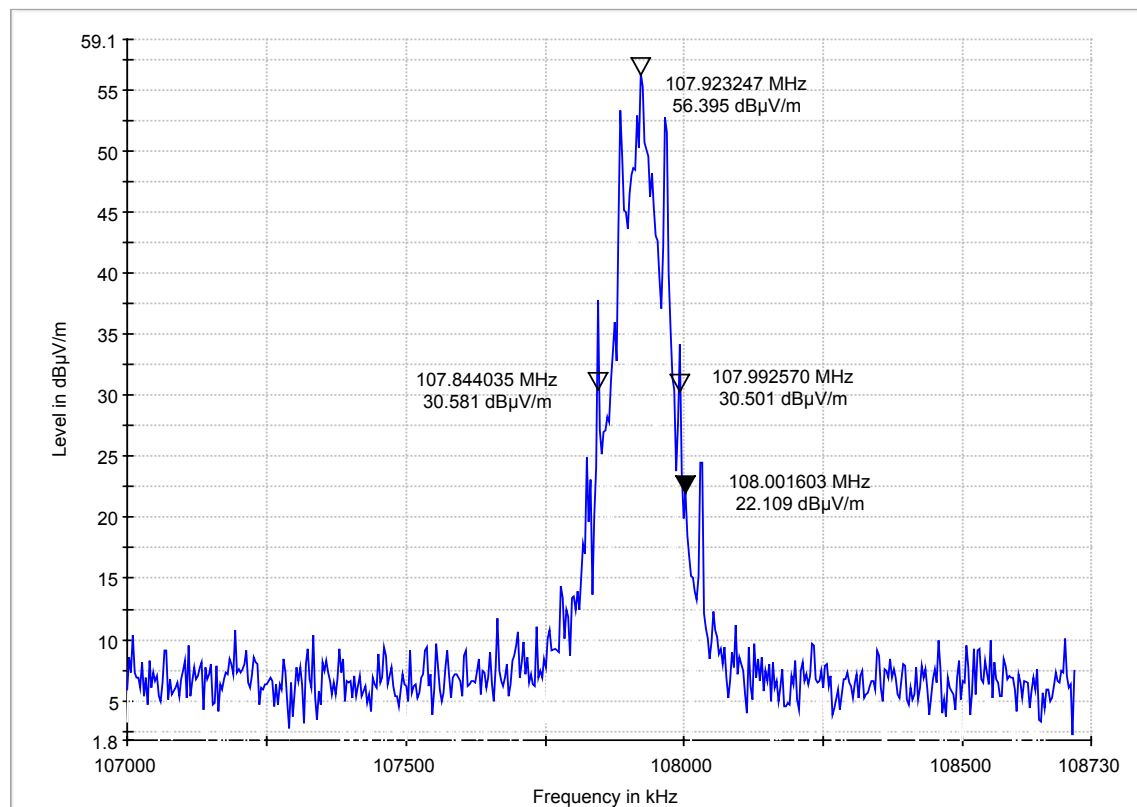
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBμV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.923247	56.3	68.0	-11.7	3.0	10.0	X	76.0	275.0	H	PASS



Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Horizontal Polarization

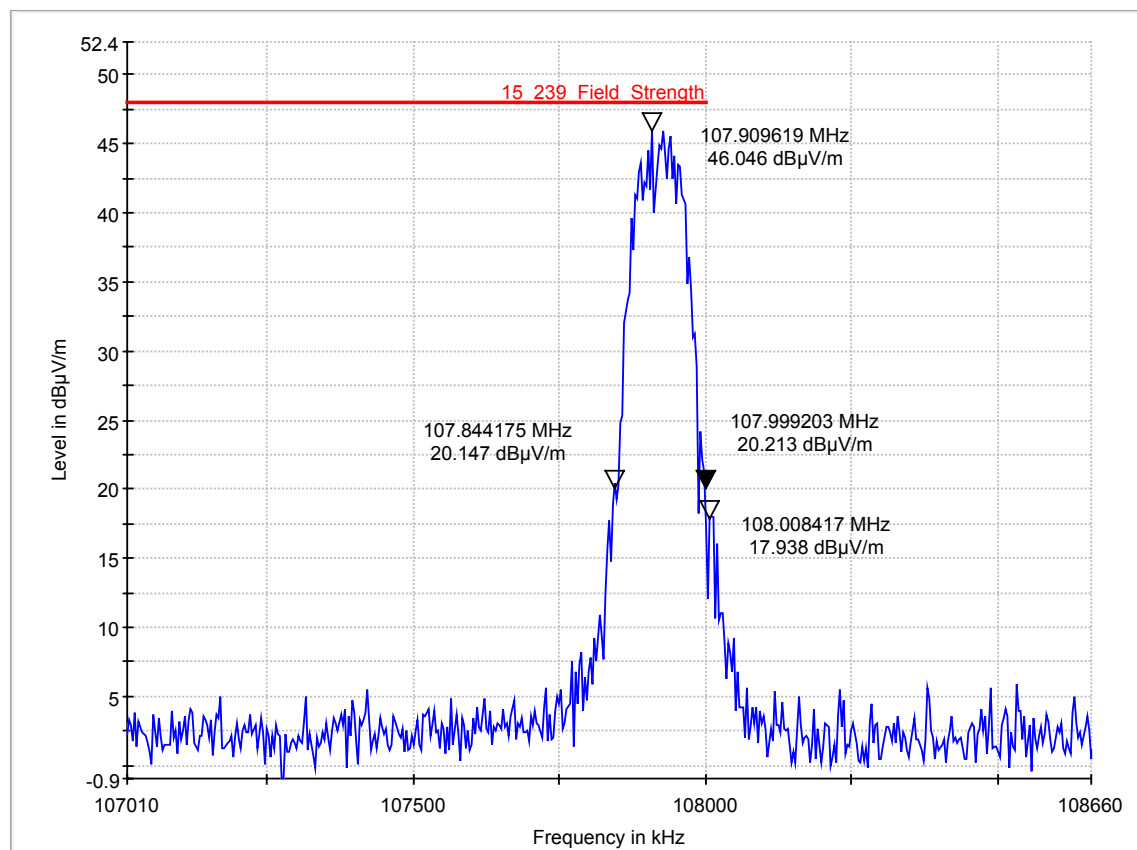
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.909619	46.0	48.0	-2.0	3.0	300.0	X	76.0	275.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Vertical Polarization

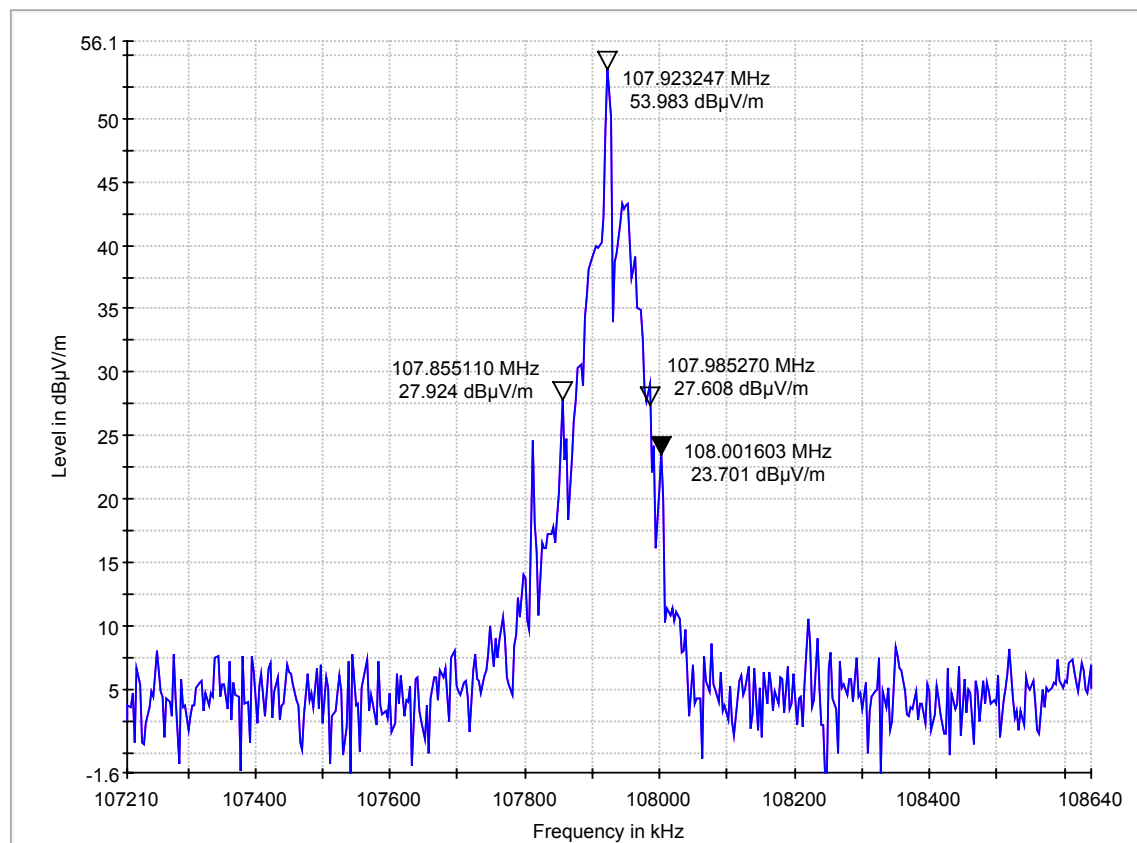
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.923247	53.9	68.0	-14.1	3.0	10.0	X	285.0	95.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-X Vertical Polarization

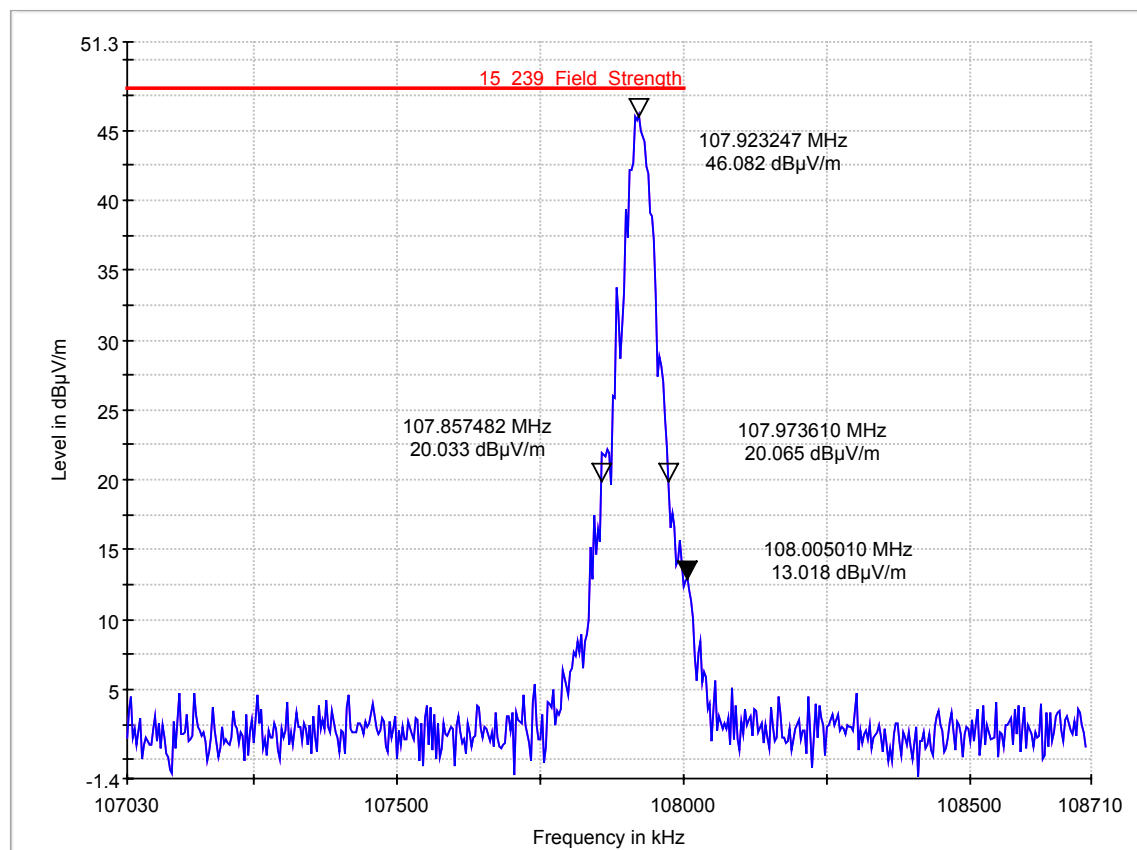
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.923247	46.0	48.0	-2.0	3.0	300.0	X	285.0	95.0	V	PASS

4.2.8 TEST RESULTS (EUT Position Y at 88.1, 99.9, and 107.9 MHz)**EUT Position Y****Frequency 88.1 MHz****Horizontal****Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Horizontal Polarization

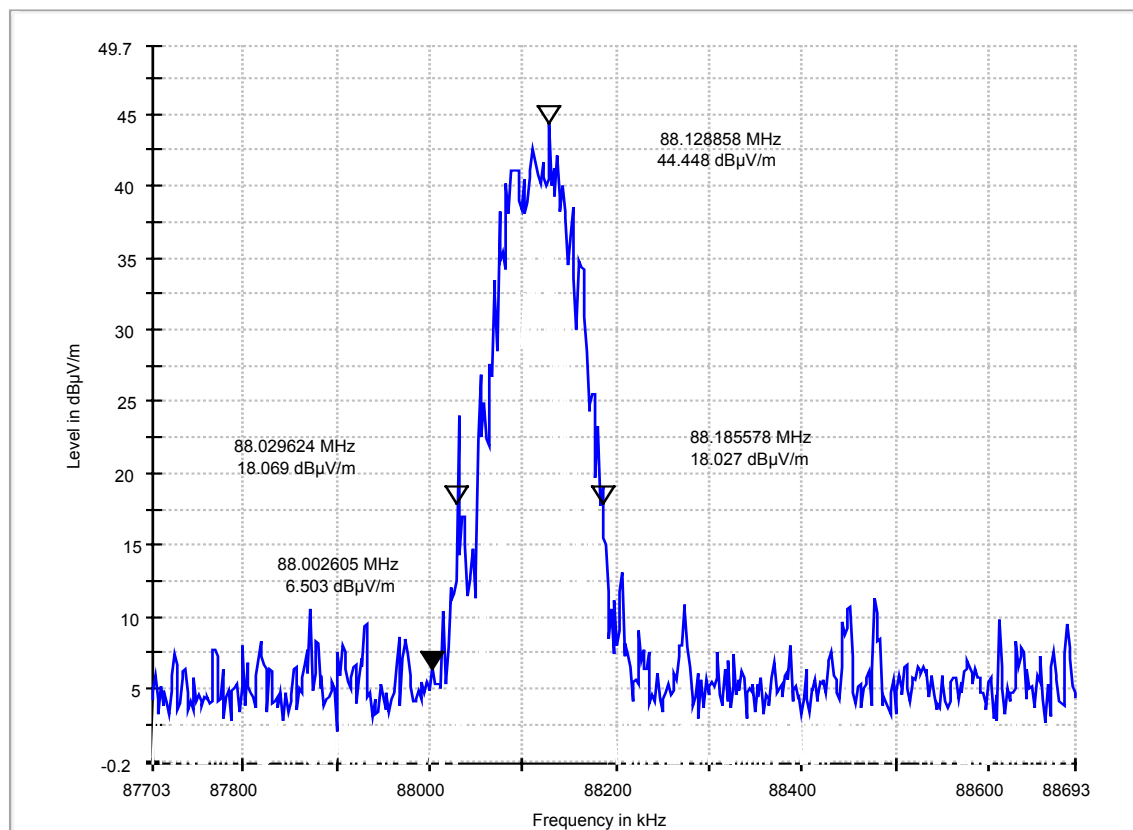
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.128858	44.4	68.0	-23.8	3.0	10.0	Y	263.0	360.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Horizontal Polarization

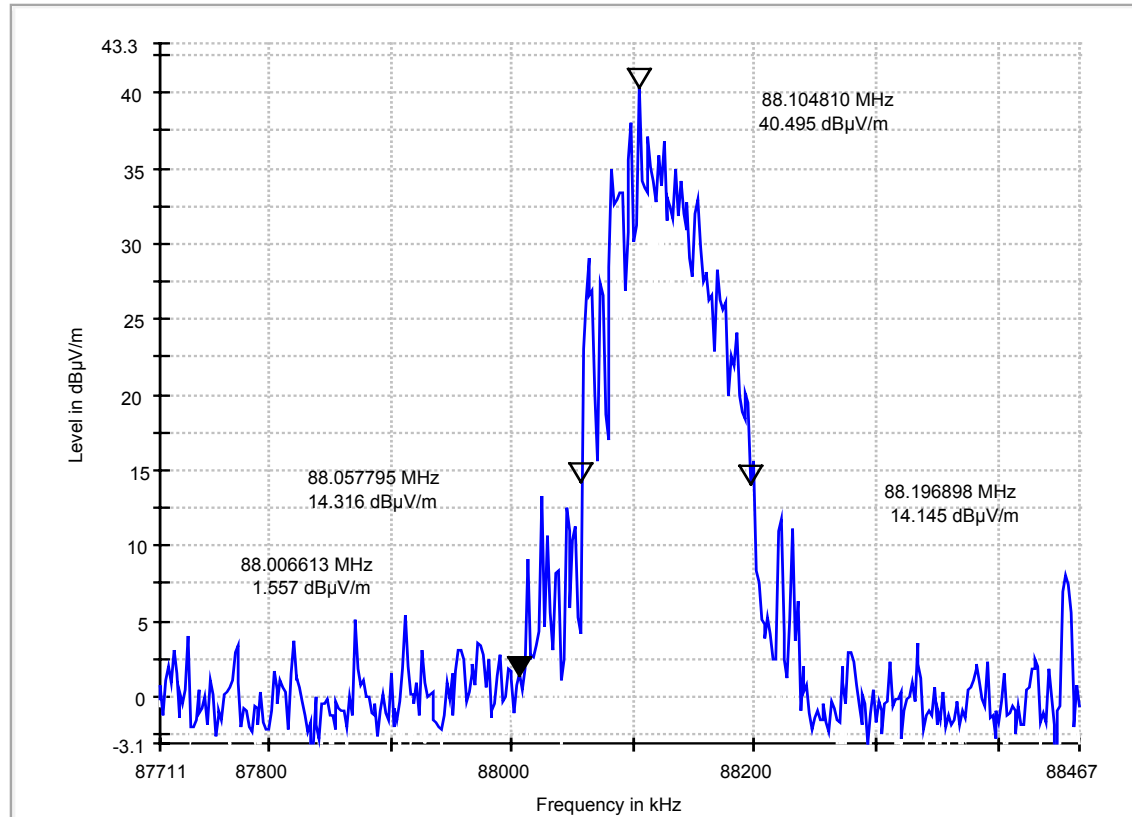
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.104810	40.4	48.0	-7.6	3.0	300.0	Y	263.0	360.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

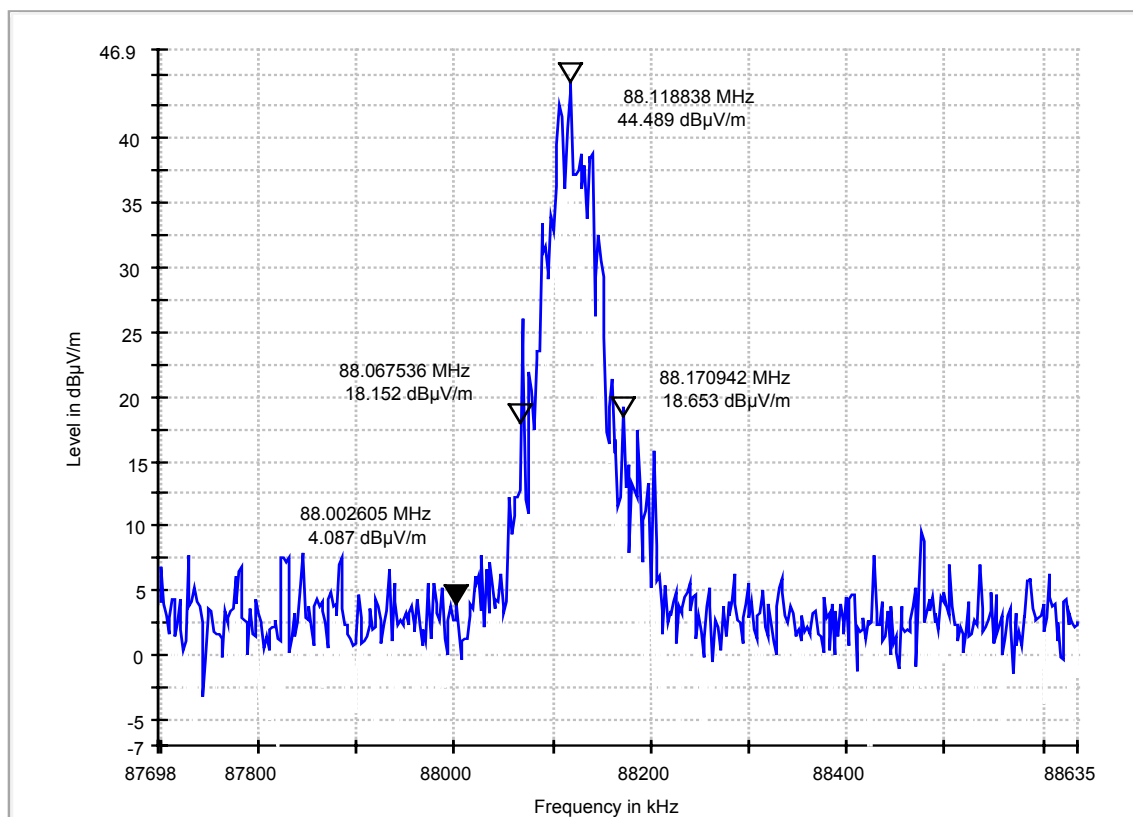
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.118838	44.4	68.0	-23.6	3.0	10.0	Y	352.0	95.0	V	PASS



Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Vertical Polarization

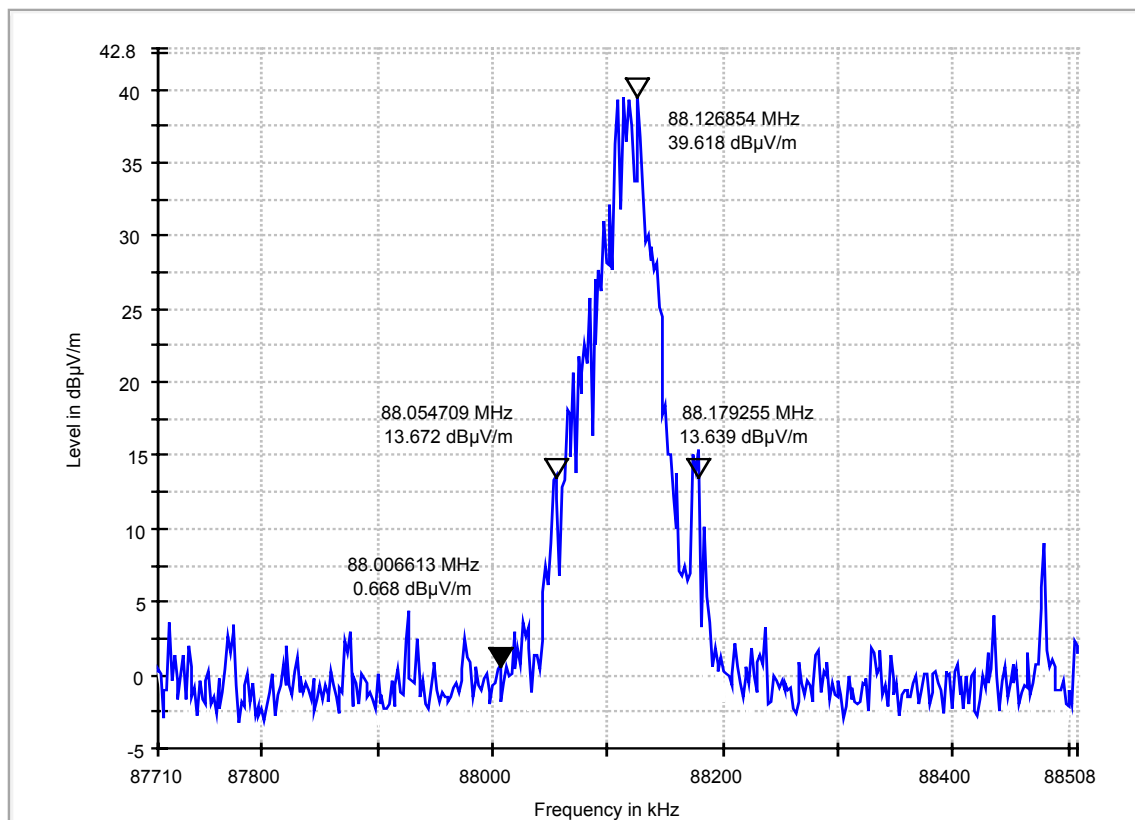
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.126854	39.6	48.0	-8.4	3.0	300.0	Y	352.0	95.0	V	PASS

Frequency 99.9 MHz

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Horizontal Polarization

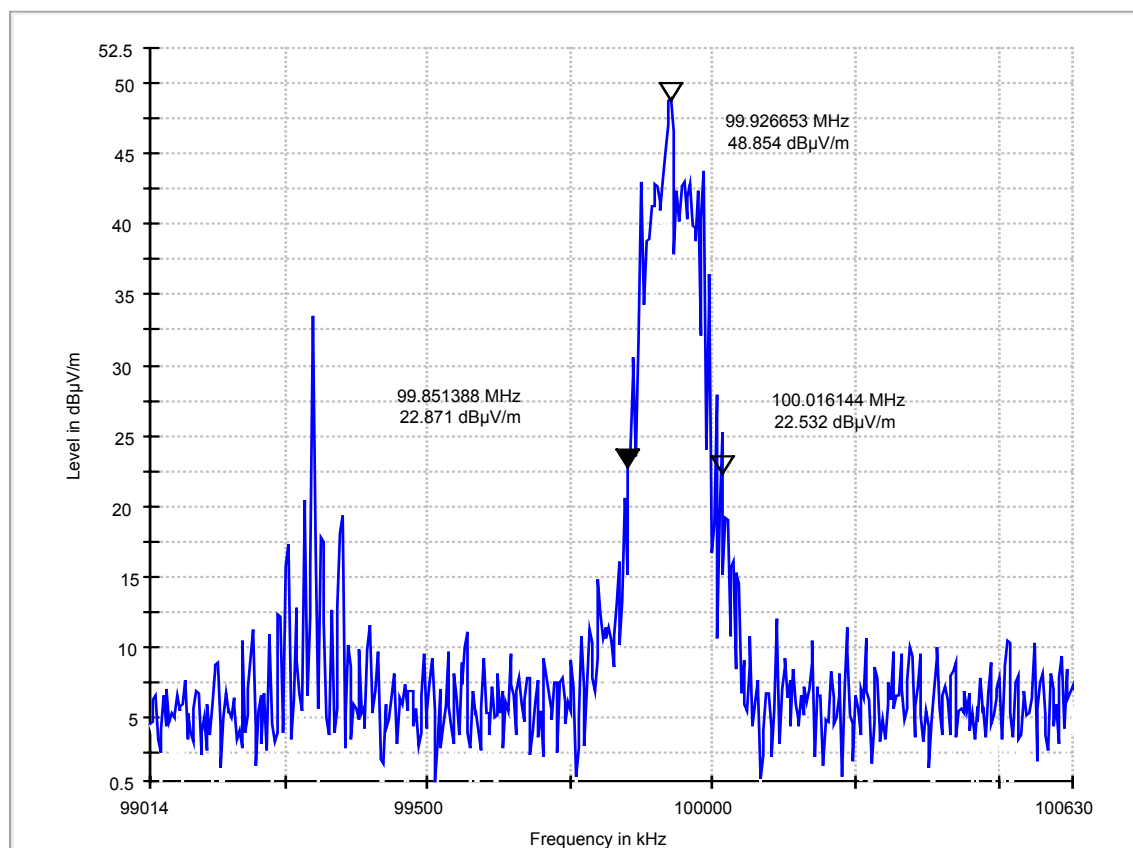
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.926653	48.8	68.0	-19.2	3.0	10.0	Y	306.0	275.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Horizontal Polarization

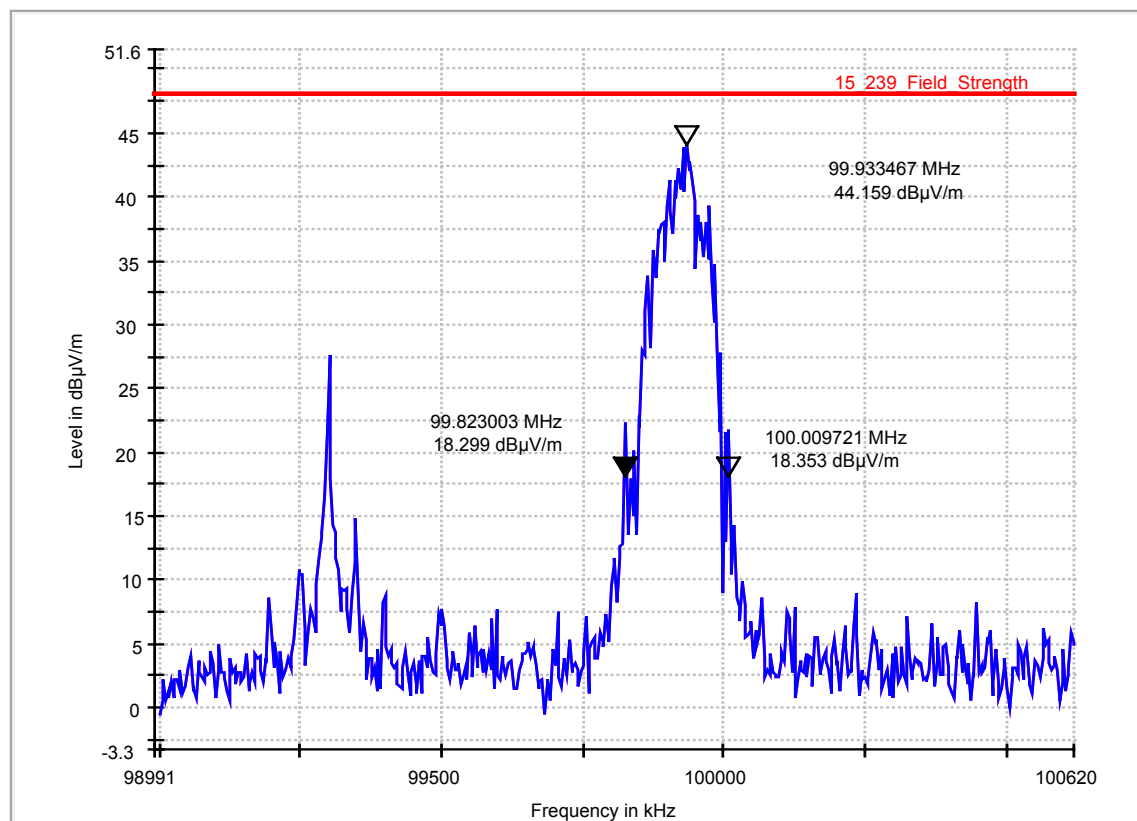
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.933467	44.1	48.0	-3.9	3.0	300.0	Y	306.0	275.0	H	PASS



Vertical

Test Information

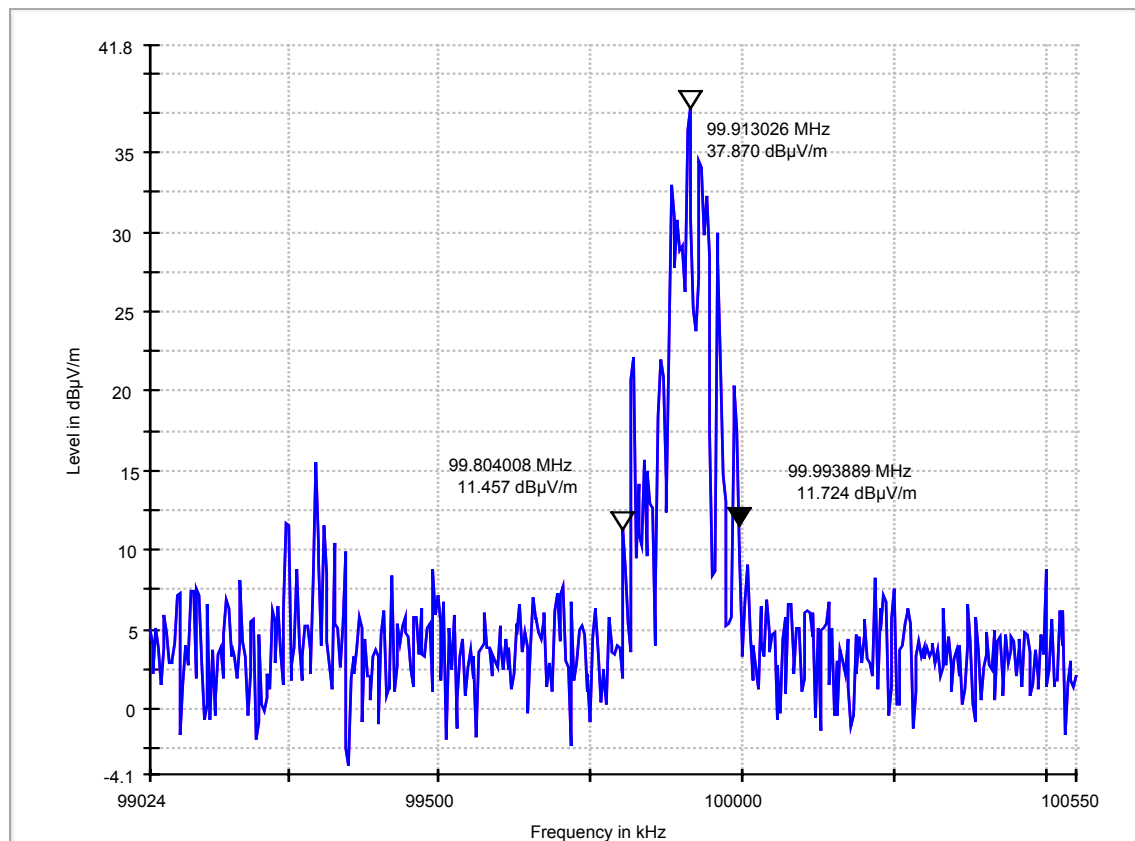
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Vertical Polarization

Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.913026	37.8	68.0	-30.2	3.0	10.0	Y	352.0	360.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Vertical Polarization

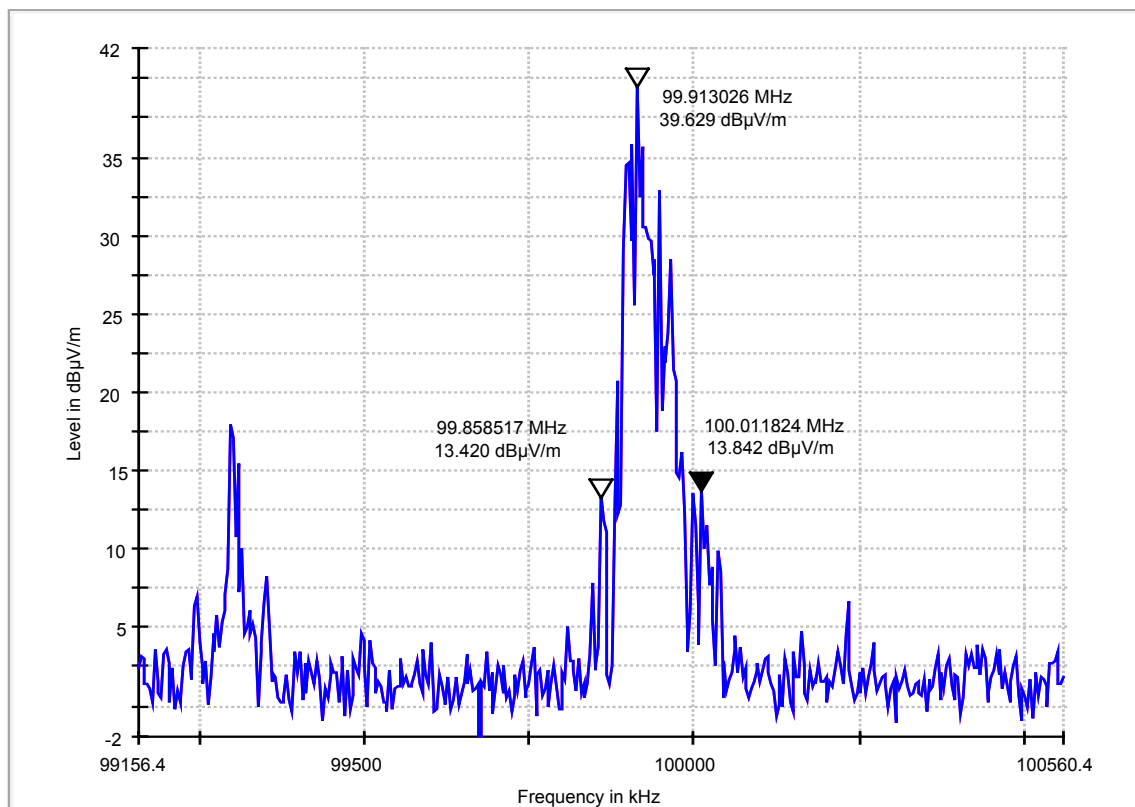
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.913026	39.6	48.0	-8.4	3.0	300.0	Y	352.0	360.0	V	PASS

Frequency 107.9 MHz

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Horizontal Polarization

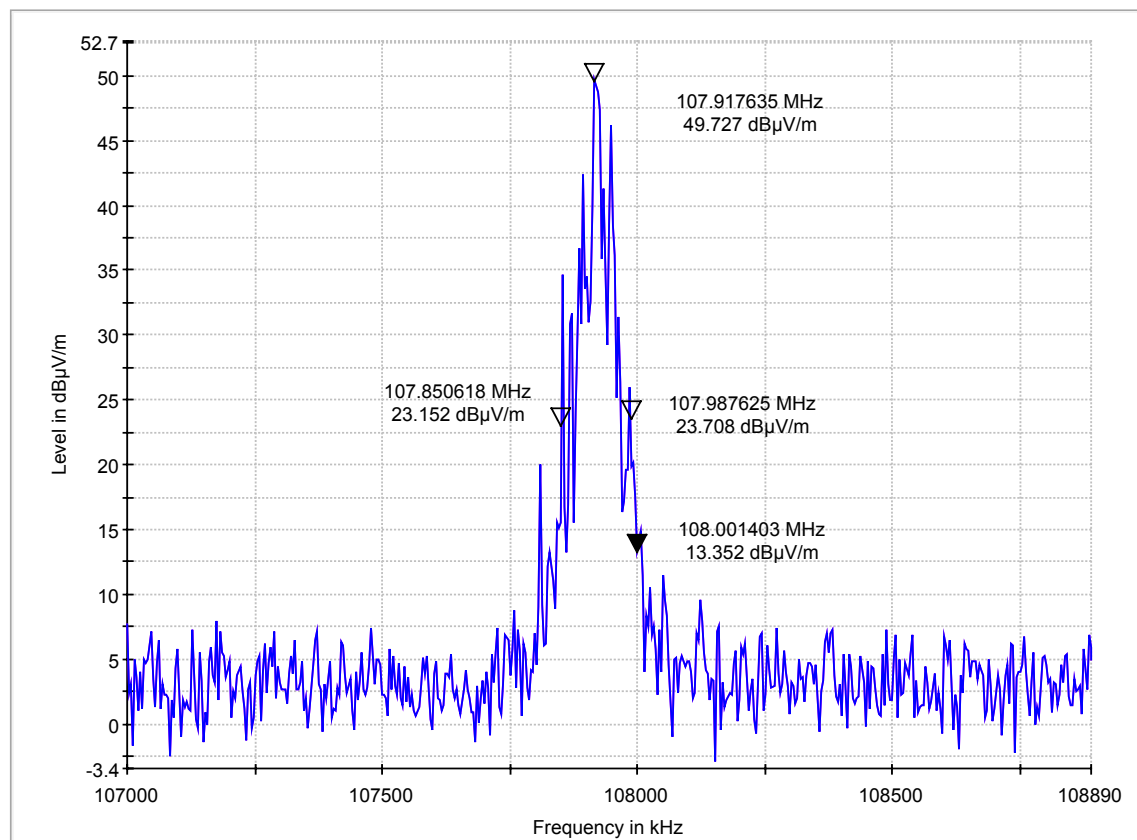
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.917635	49.7	68.0	-18.3	3.0	10.0	Y	42.0	300.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Horizontal Polarization

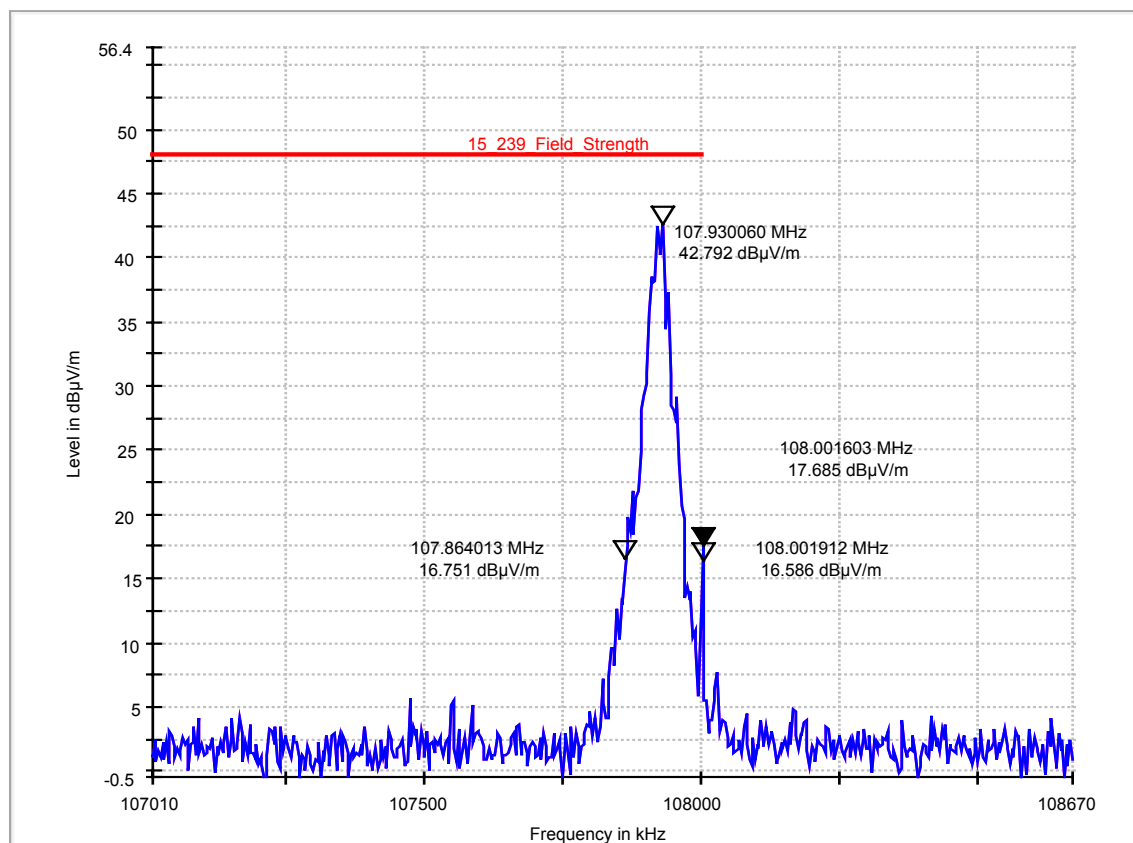
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.930060	42.7	48.0	-5.3	3.0	300.0	Y	42.0	300.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Vertical Polarization

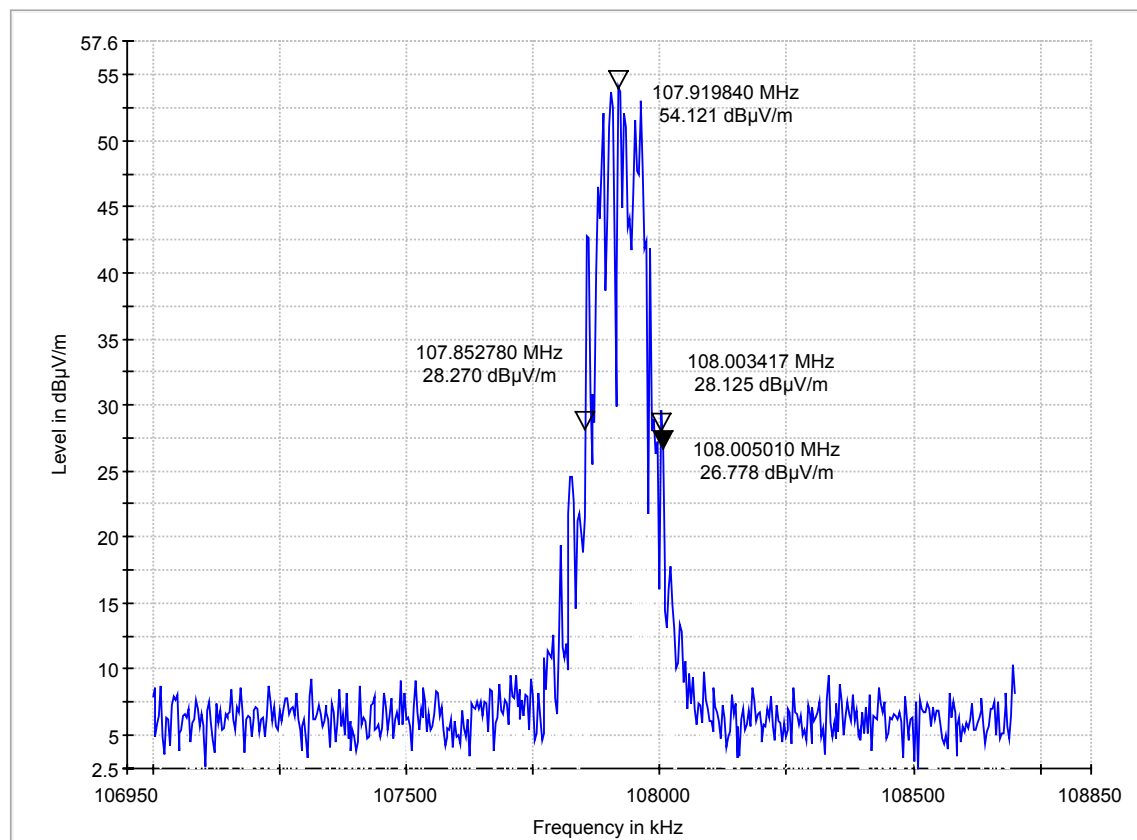
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.919840	54.1	68.0	-13.9	3.0	10.0	Y	77.0	95.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Y Vertical Polarization

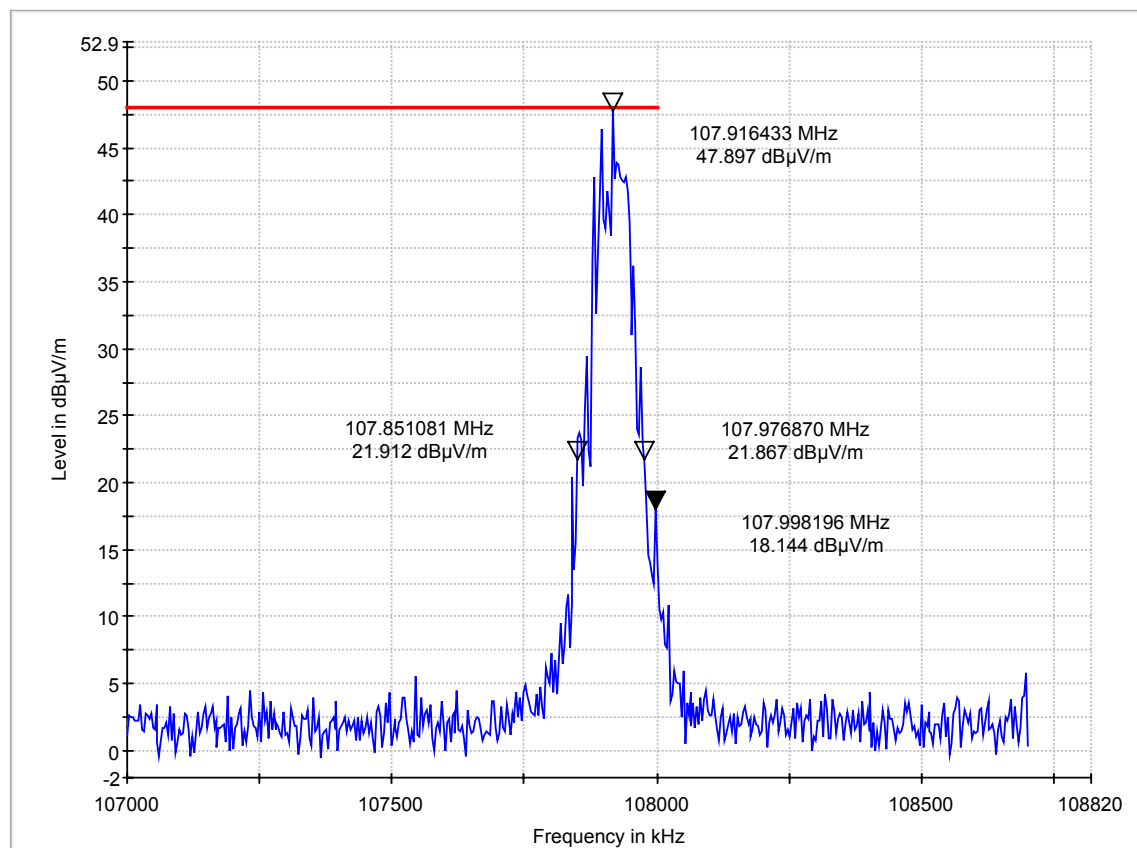
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.916433	47.8	48.0	-0.2	3.0	300.0	Y	77.0	95.0	V	PASS

4.2.9 TEST RESULTS (EUT Position Z at 88.1, 99.9, and 107.9 MHz)**EUT Position Z****Frequency 88.1 MHz****Horizontal****Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

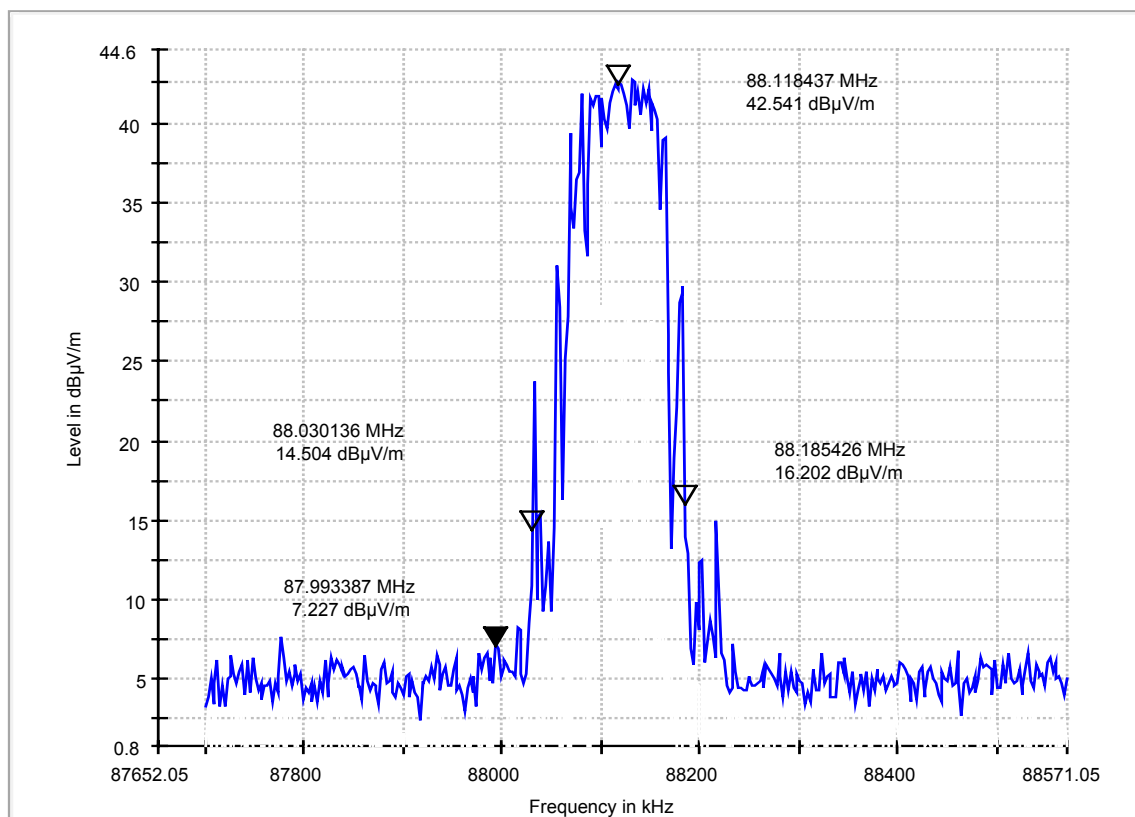
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.118437	42.5	68.0	-25.5	3.0	10.0	Z	352.0	205.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

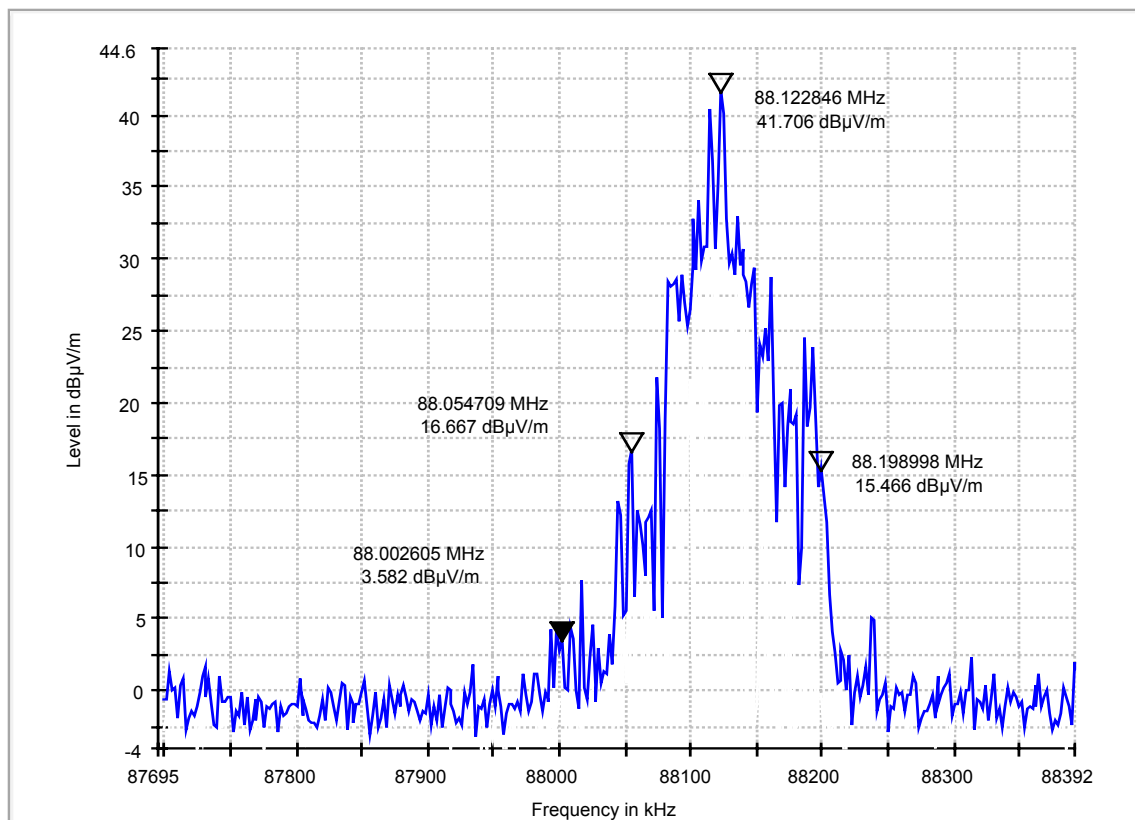
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.122846	41.7	48.0	-6.3	3.0	300.0	Z	352.0	205.0	H	PASS



Vertical

Test Information

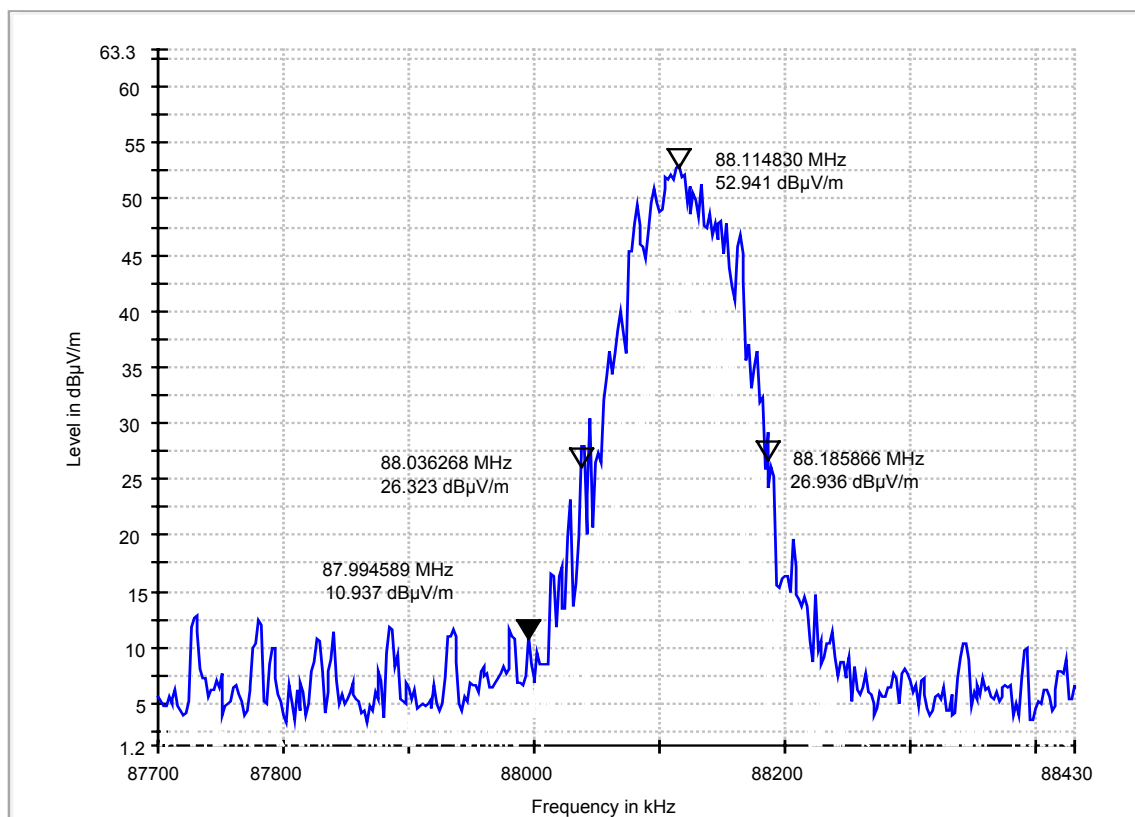
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.114830	52.9	68.0	-15.1	3.0	10.0	Z	352.0	95.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

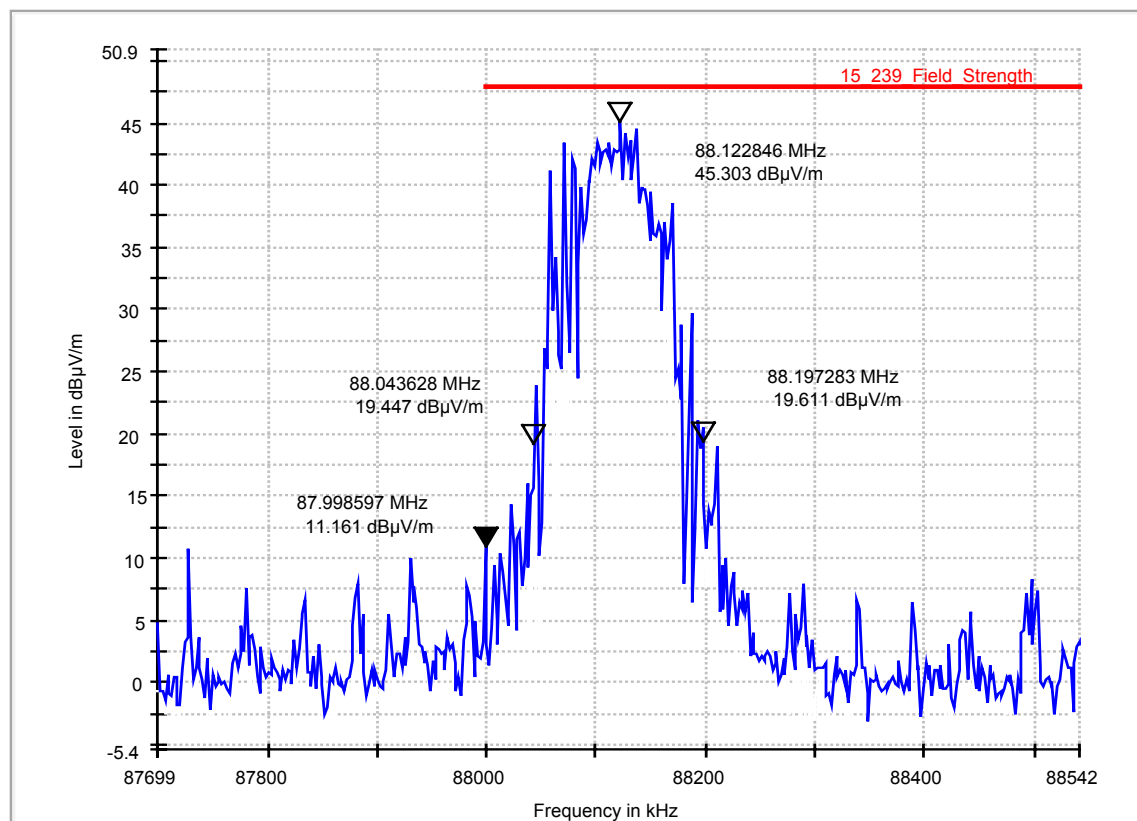
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
88.122846	45.3	48.0	-2.7	3.0	300.0	Z	352.0	95.0	V	PASS



Frequency 99.9 MHz

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

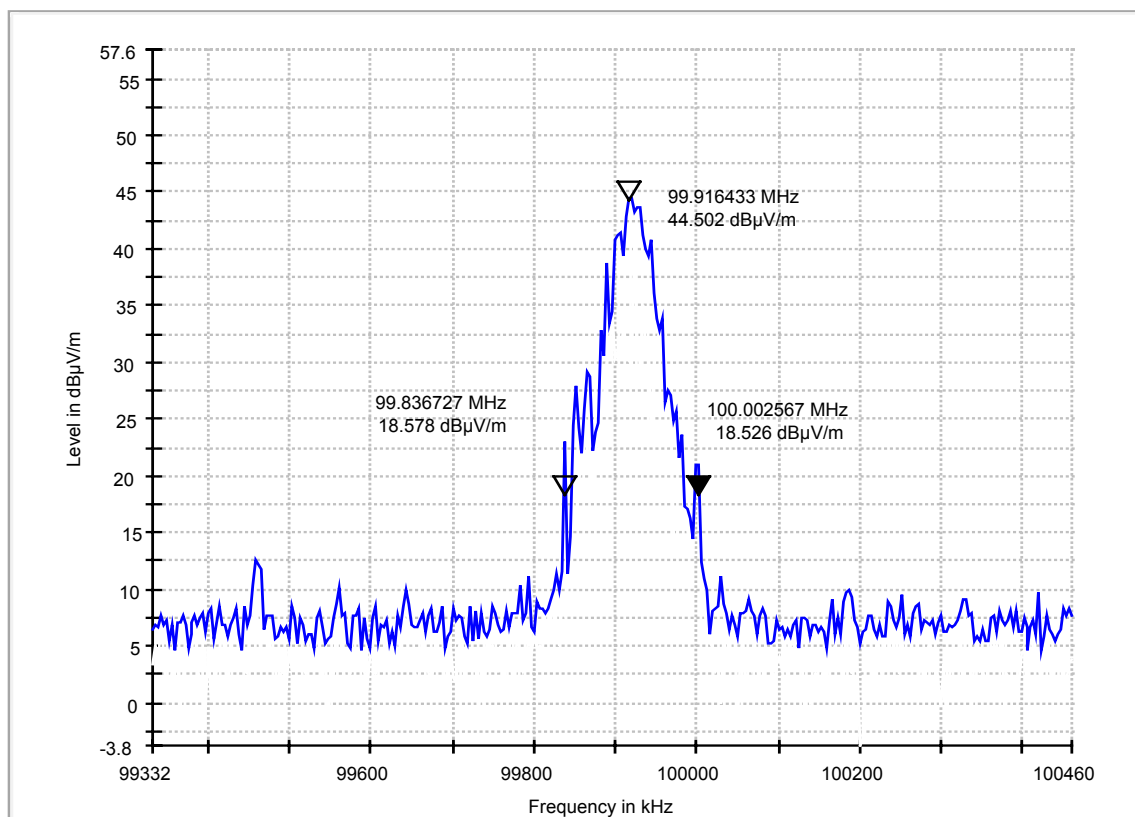
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.916433	44.5	68.0	-23.5	3.0	10.0	Z	54.0	353.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

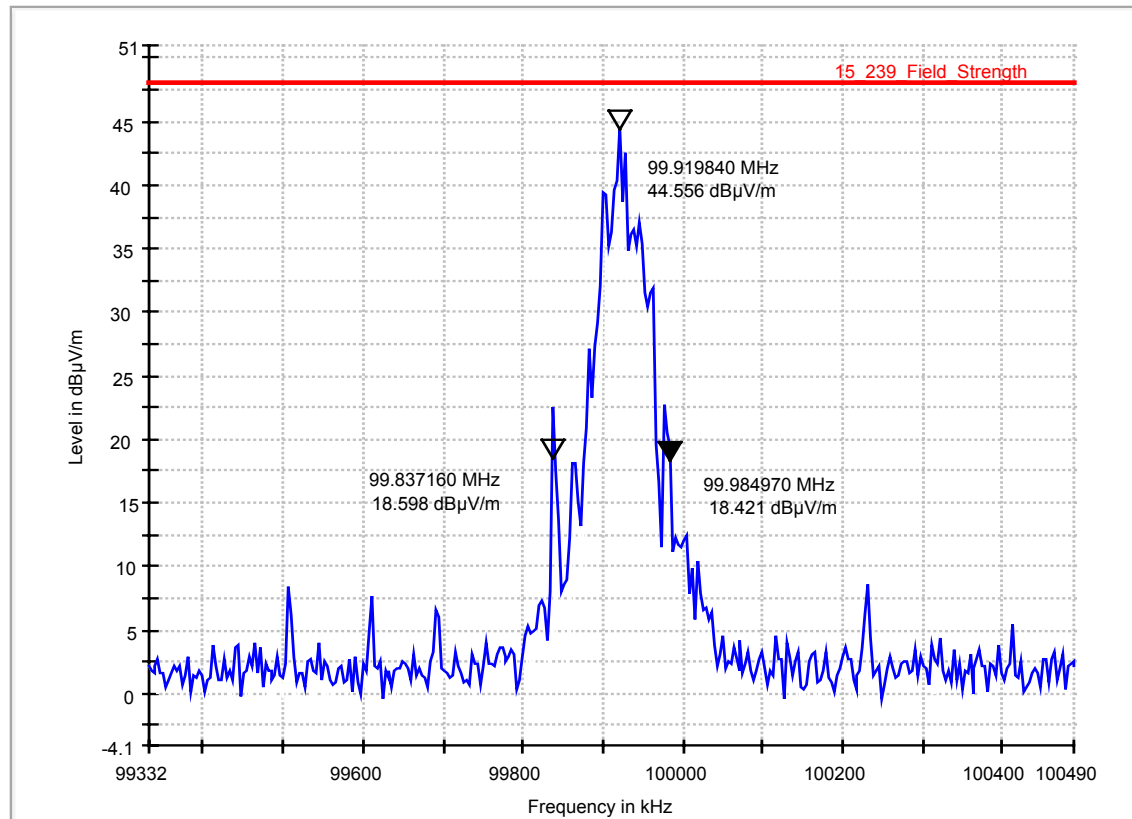
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.919840	44.5	48.0	-3.5	3.0	300.0	Z	54.0	353.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

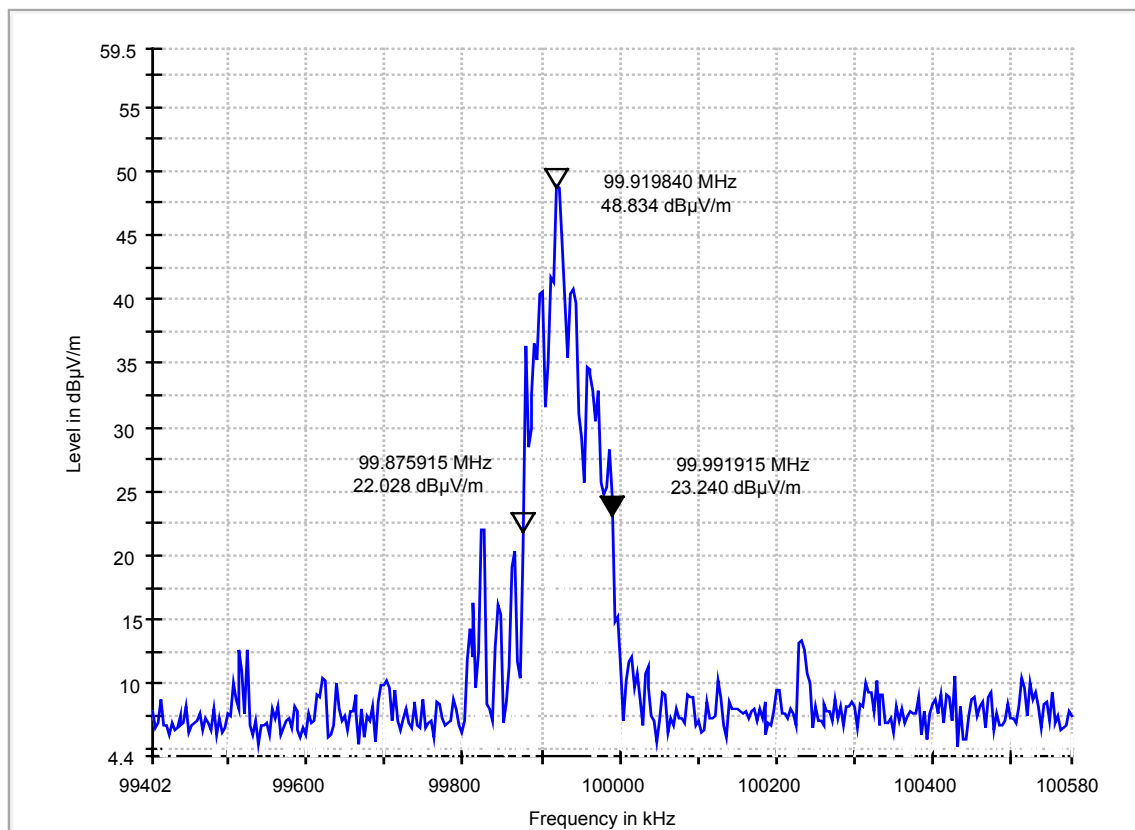
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.91840	48.8	68.0	-19.2	3.0	10.0	Z	308.0	95.0	V	PASS

**Test Information**

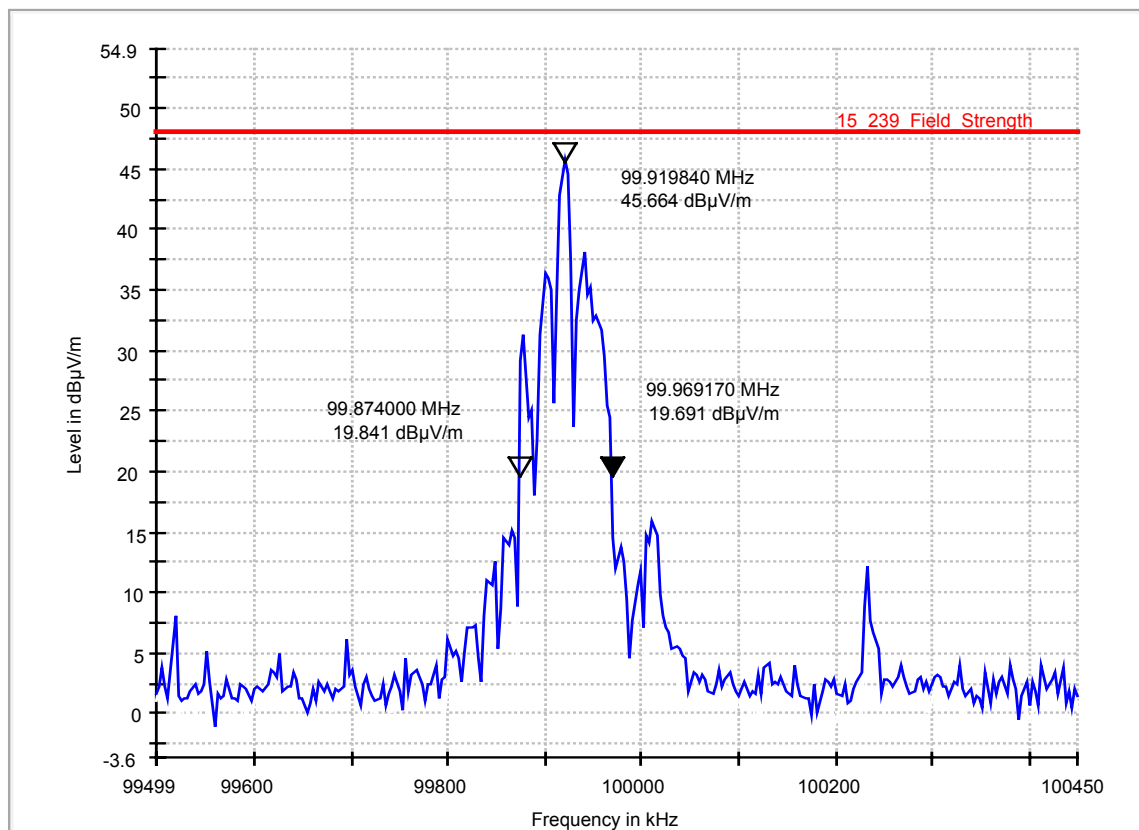
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
99.91840	45.6	48.0	-2.4	3.0	300.0	Z	308.0	95.0	V	PASS



Frequency 107.9

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

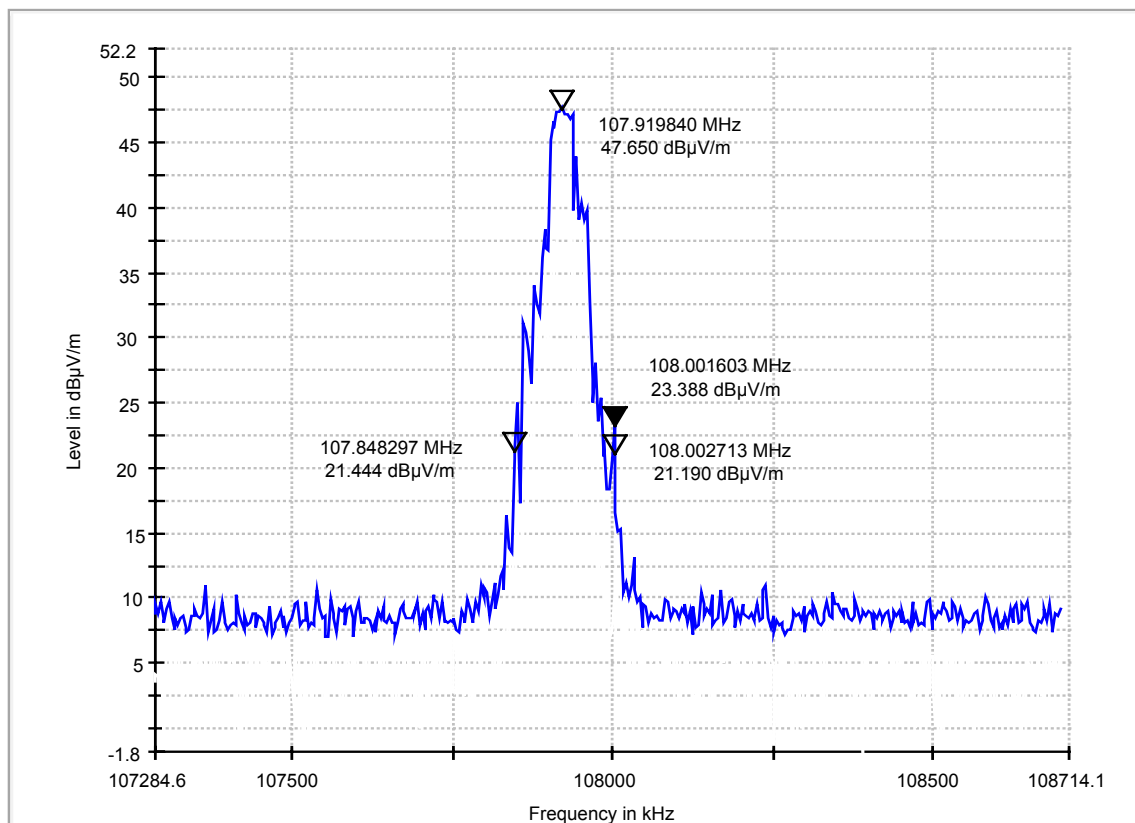
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Horizontal



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.919840	47.6	68.0	-20.4	3.0	10.0	Z	304.0	96.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

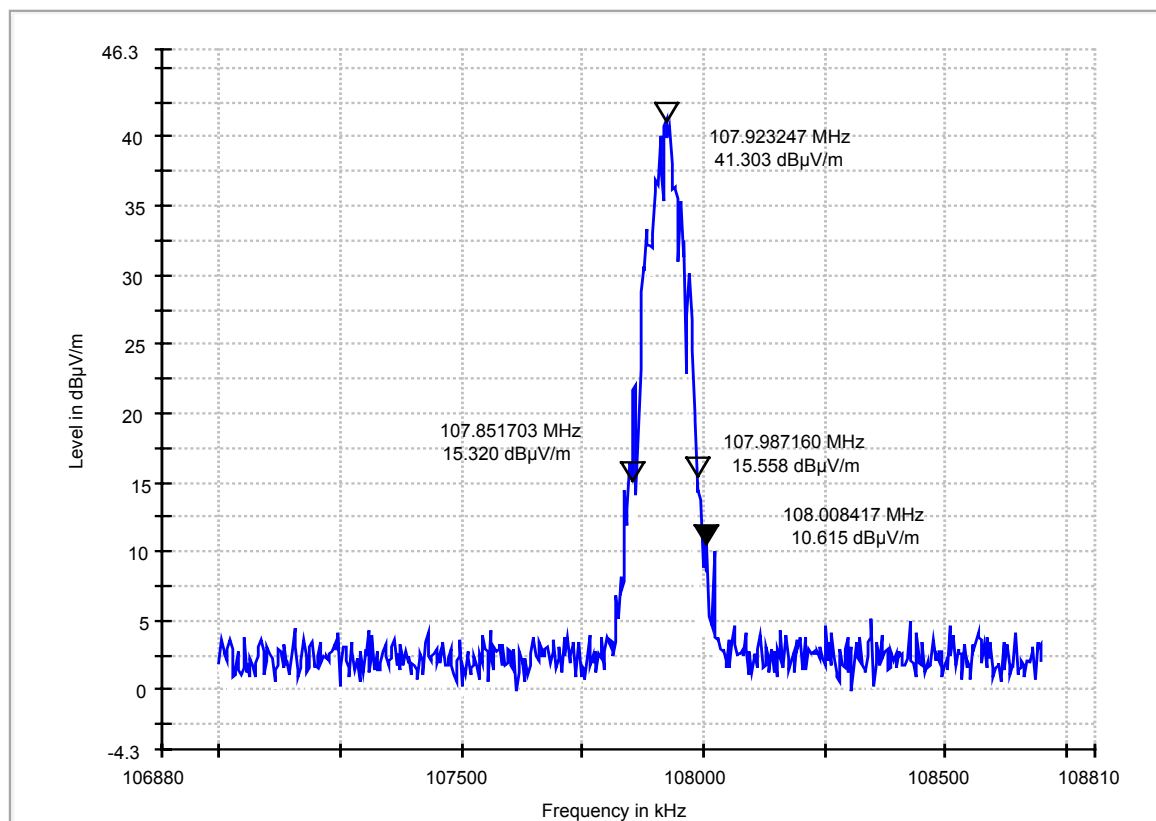
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Horizontal



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.923247	41.3	48.0	-6.7	3.0	300.0	Z	304.0	96.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

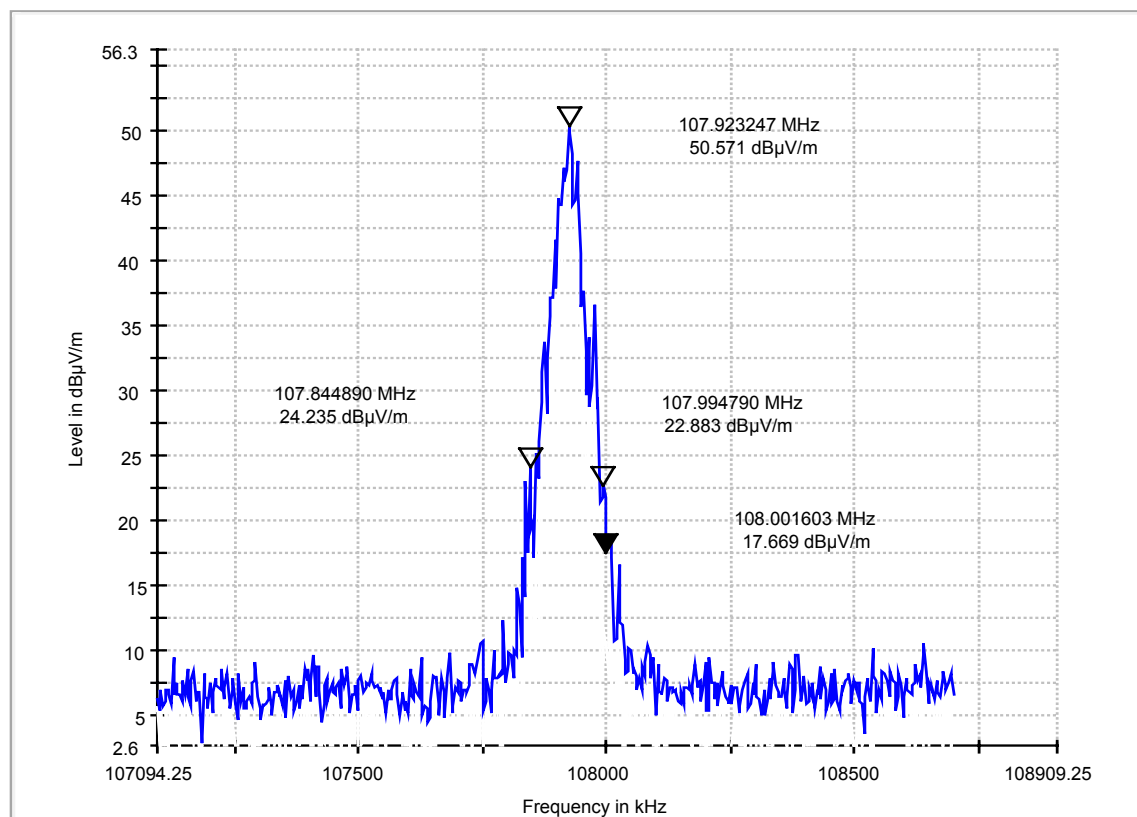
Sweep Setup: FCC_15_239_FieldStrength_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_Peak

Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.923247	50.5	68.0	-17.5	3.0	10.0	Z	115.0	113.0	V	PASS



Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

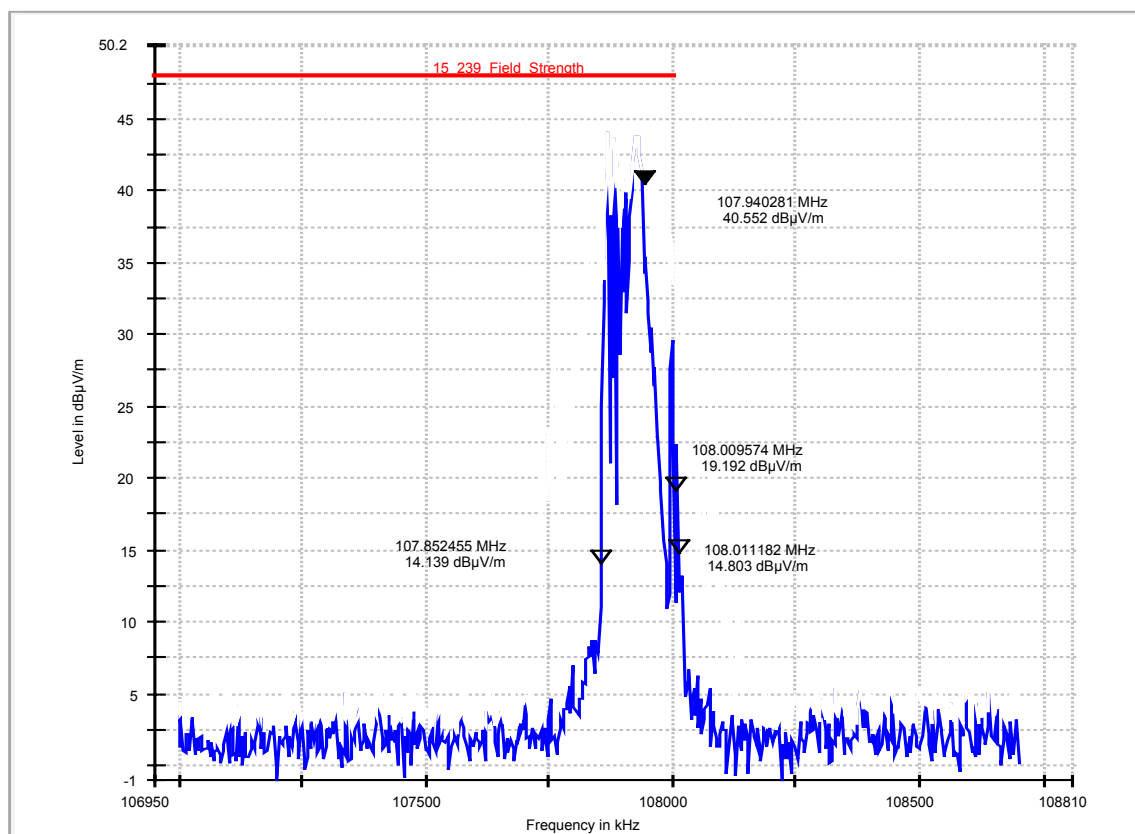
Sweep Setup: FCC_15_239_FieldStrength_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_FieldStrength_AVG

Vertical



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV)	Margin (dB)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	EUT Position	Azimuth (deg)	height (cm)	Polarity	Comment
107.940281	40.5	48.0	-7.5	3.0	300.0	Z	115.0	113.0	V	PASS

4.3 BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF BANDWIDTH MEASUREMENT

Emissions from the intentional radiator shall be confined within a band 200kHz wide centered on the operating frequencies. The 200kHz band shall lie wholly within the frequency range of 88-108 MHz.

The 26dBc bandwidth was measured and recorded.

4.3.2 TEST INSTRUMENT

Device	Model No.	Serial No.	Last Cal.	Next Cal
Cable 1	8214	CBL-006	02/19/05	02/19/06
Cable 2	8268	CBL-002	02/19/05	02/19/06
ROHDE & SCHWARZ EMI Test Receiver	ESIB 40	100201	01/23/04	01/23/06
Tower 1	EMCO 1050	9310-1786	N/A	N/A
Turntable 1	EMCO 1060	9409-1753	N/A	N/A
Bilog Antenna	CBL6112B	2604	09/03/04	11/04/05
Shielded Semi-Anechoic Chamber	RANTEC	N/A	02/11/05	02/11/06
Temperature and Humidity Recorder	Dickson TH8-24C	5097755	09/16/03	09/16/05

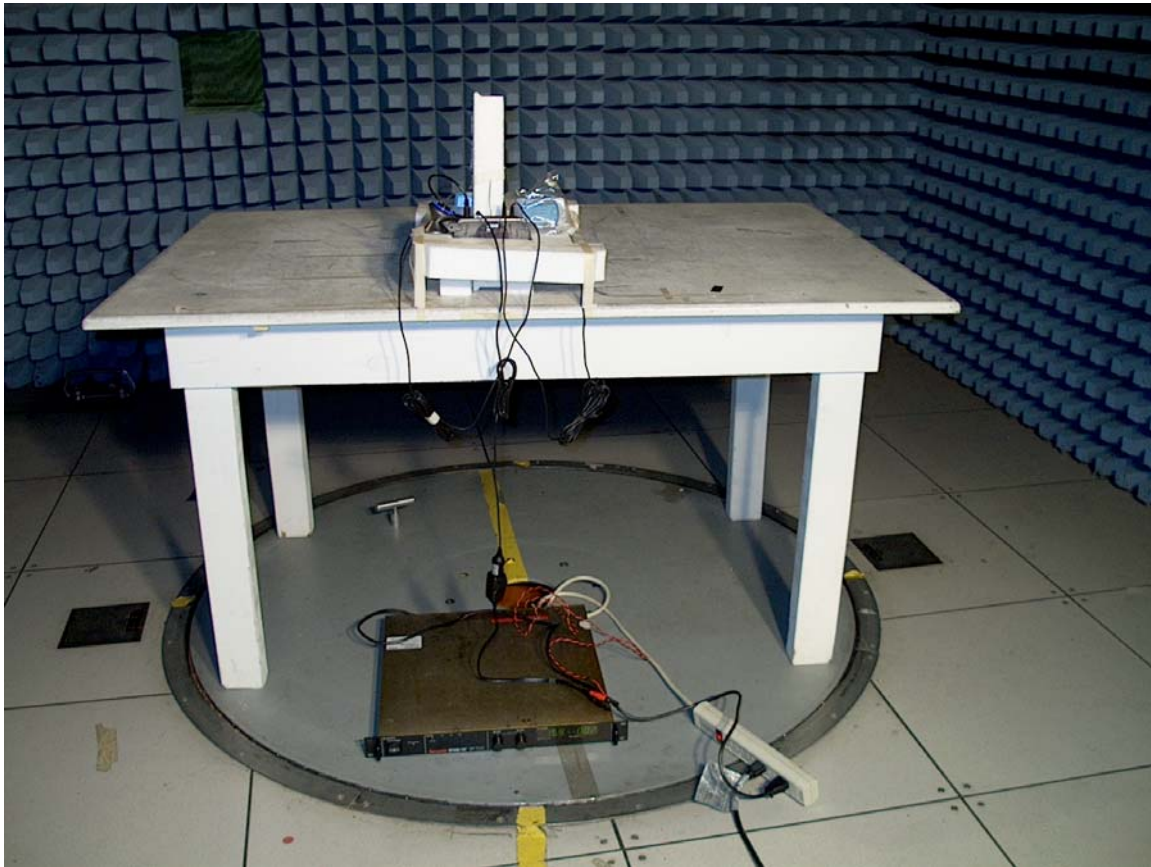
4.3.3 TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter Semi-Anechoic Chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a bilog antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

4.3.4 DEVIATION FROM TEST STANDARDS

No deviation

4.3.5 TEST SETUP



BANDWIDTH Test
EUT placed at Z position
(Front View)

4.3.6 EUT OPERATING CONDITIONS

The EUT is continuously linked with the iPod at every channel frequency. There are three channel frequencies that were tested at 88.1MHz, 99.9MHz, and 107.9MHz. During the operating condition, voltage of 13.8VDC was tested. The EUT is tested for Z orthogonal positions. The typical modulation was used.

This program was repeated continuously for the duration of the testing. The above mentioned set-up allowed the article to perform sufficiently for the test purposes and required time, i.e. produce radiated emissions.

4.3.7 TEST RESULTS (EUT Position Z at 88.1, 99.9, and 107.9 MHz)**EUT Position Z****Frequency 88.1 MHz****Horizontal****Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

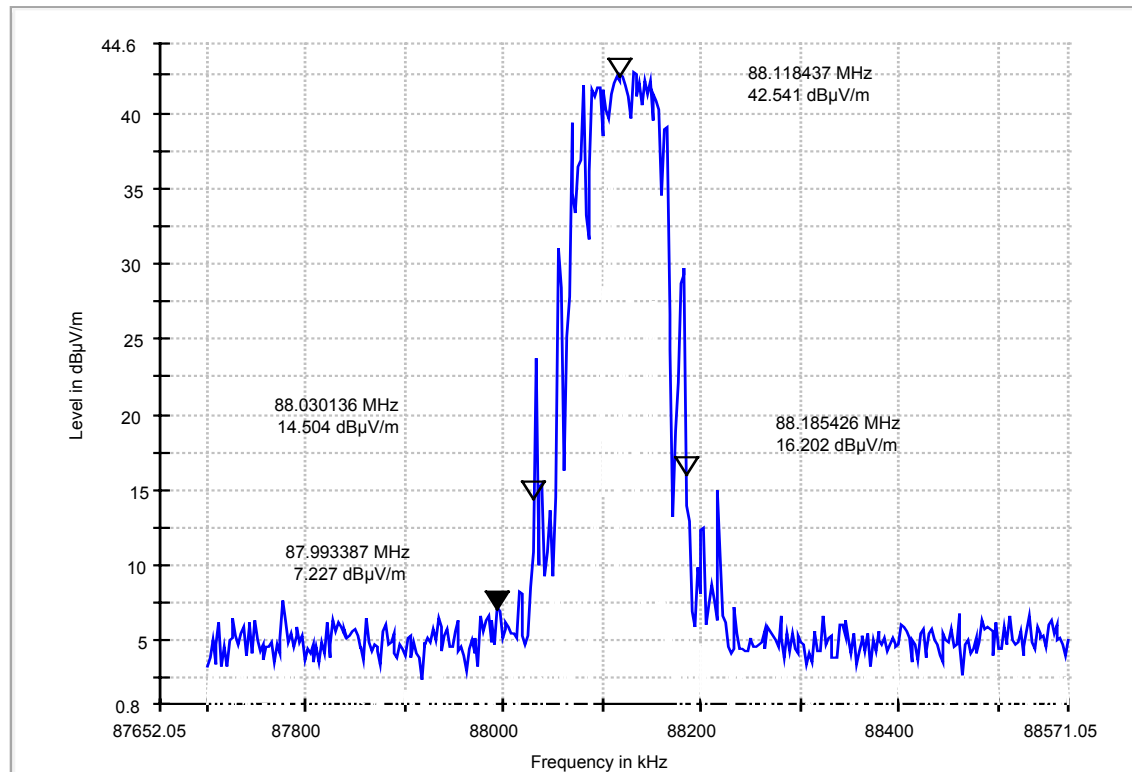
Sweep Setup: FCC_15_239_Bandwidth_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_Peak

Horizontal



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	
88.118437	150.0	200.0	-50.0	3.0	10.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

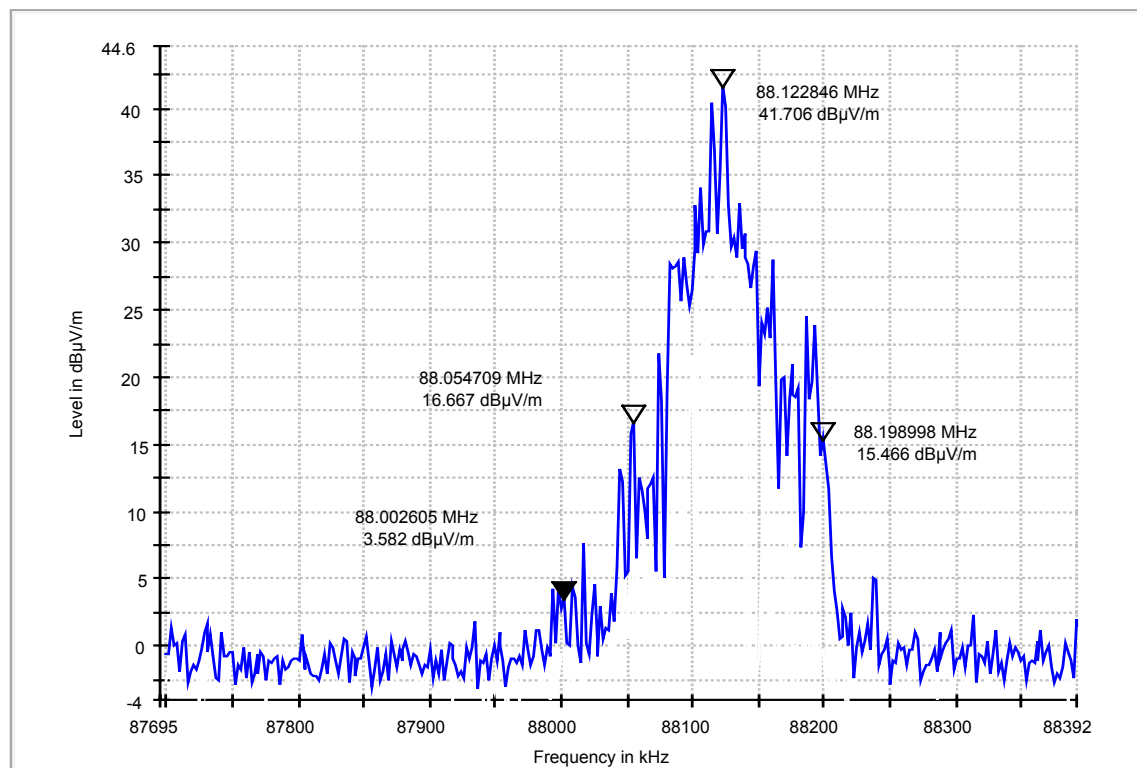
Sweep Setup: FCC_15_239_Bandwidth_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_AVG

Horizontal



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
88.122846	140.0	200.0	-60.0	3.0	300.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

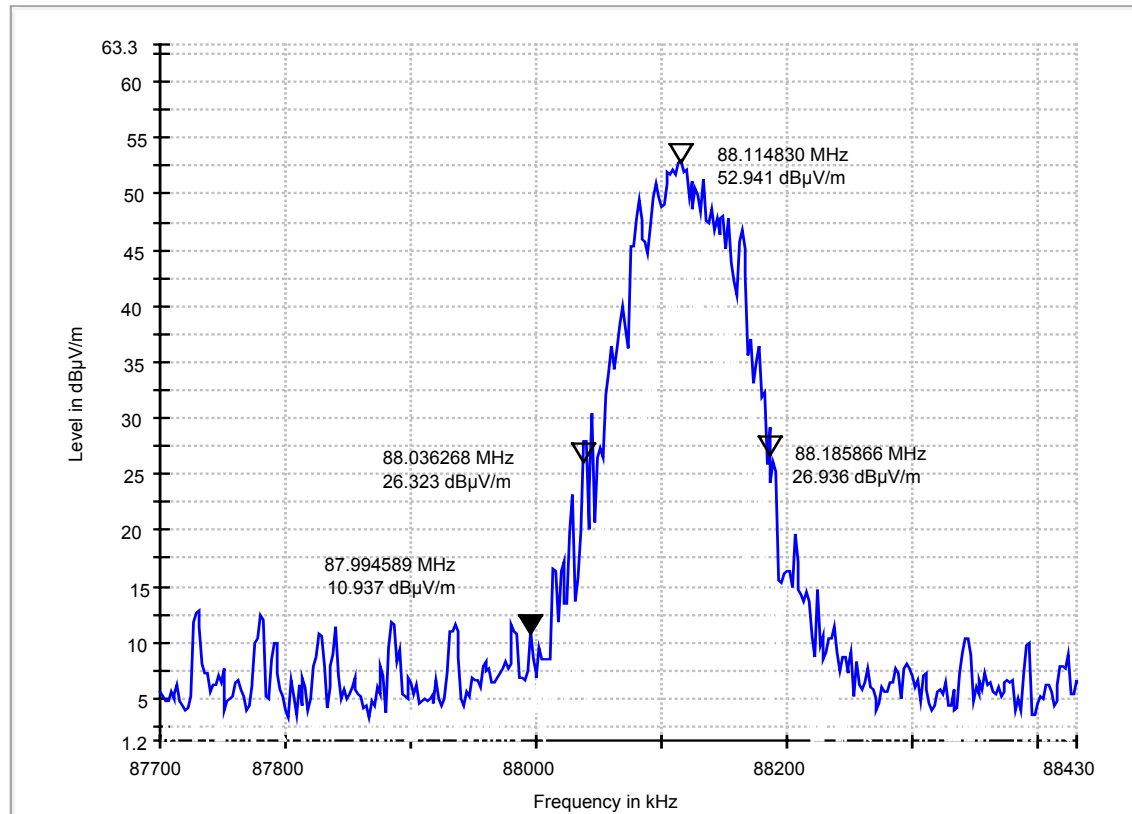
Sweep Setup: FCC_15_239_Bandwidth_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_Peak

Vertical



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
88.114830	150.0	200.0	-50.0	3.0	10.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

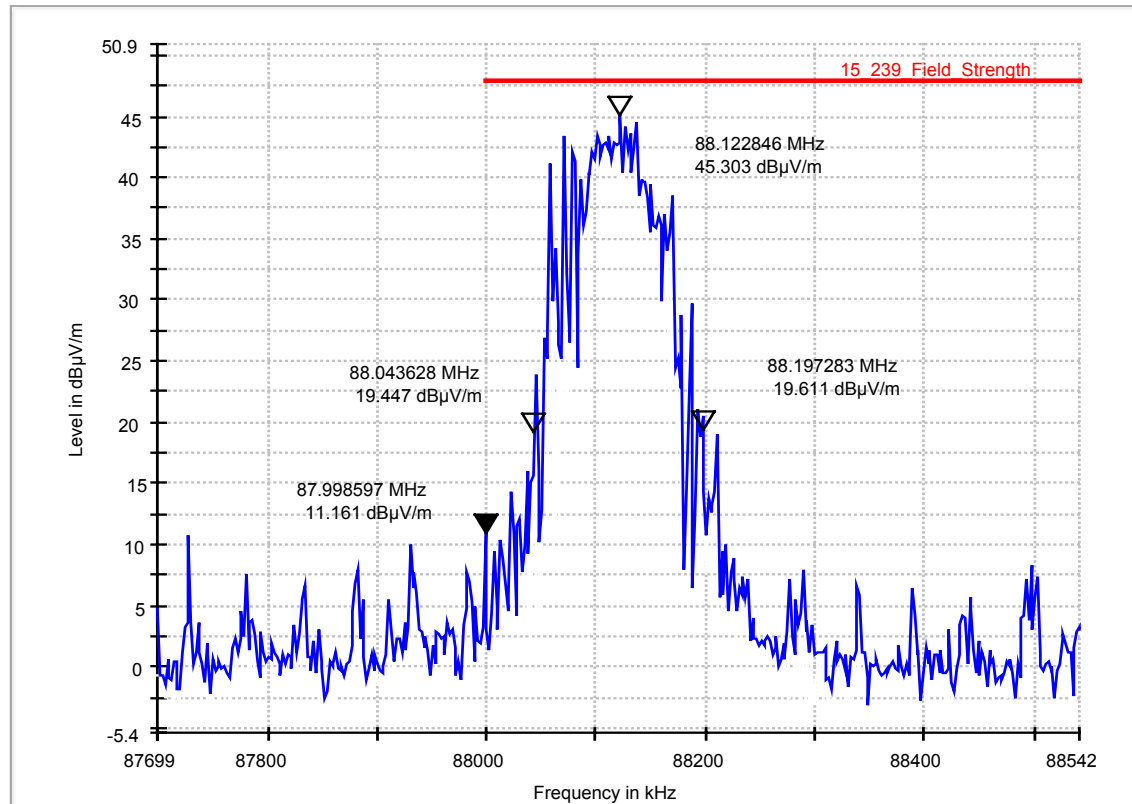
Sweep Setup: FCC_15_239_Bandwidth_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_AVG

Vertical



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
88.122846	150.0	200.0	-50.0	3.0	300.0	V	PASS

Frequency 99.9 MHz

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

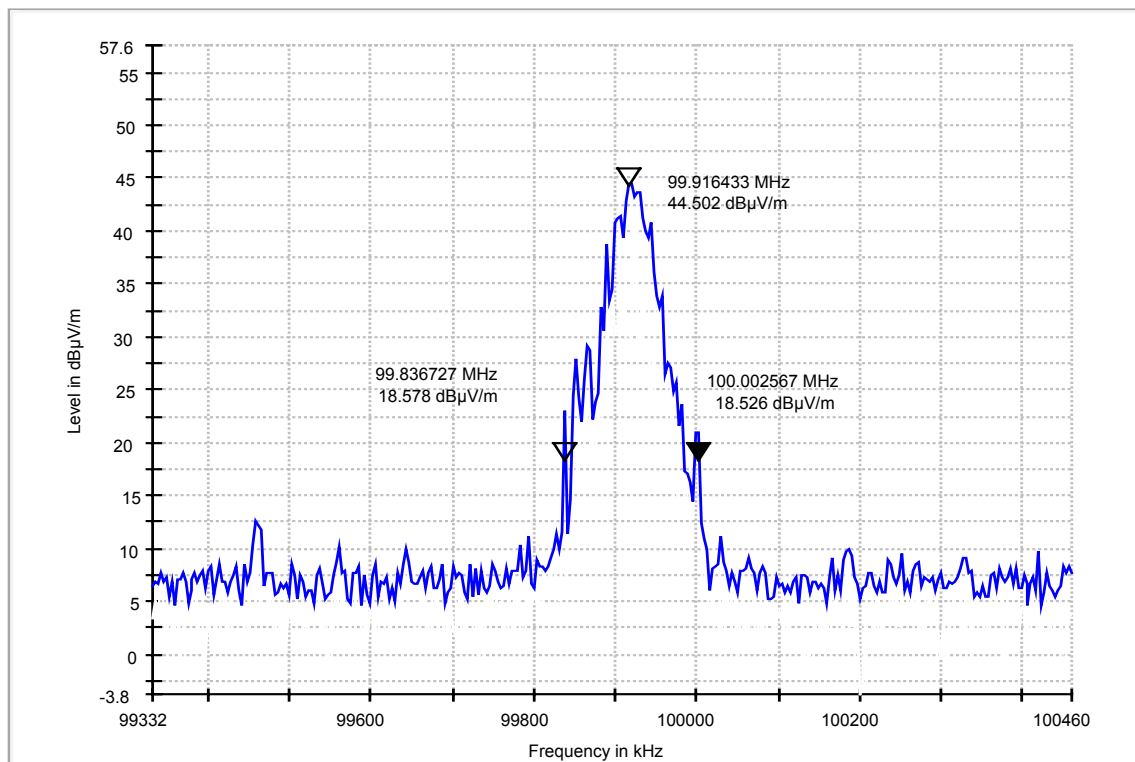
Sweep Setup: FCC_15_239_Bandwidth_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBμV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_Peak

Horizontal



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
99.916433	170.0	200.0	-30.0	3.0	10.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 99.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

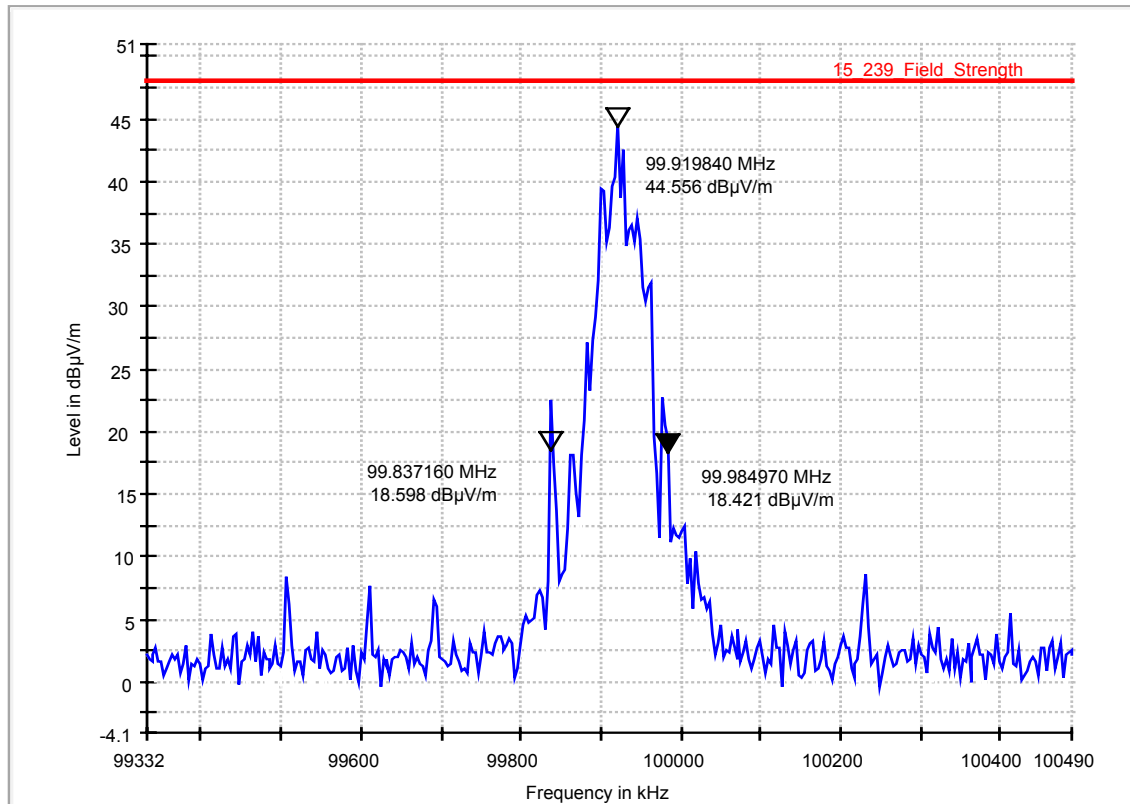
Sweep Setup: FCC_15_239_Bandwidth_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_AVG

Horizontal



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
99.919840	150.0	200.0	-50.0	3.0	300.0	H	PASS



Vertical

Test Information

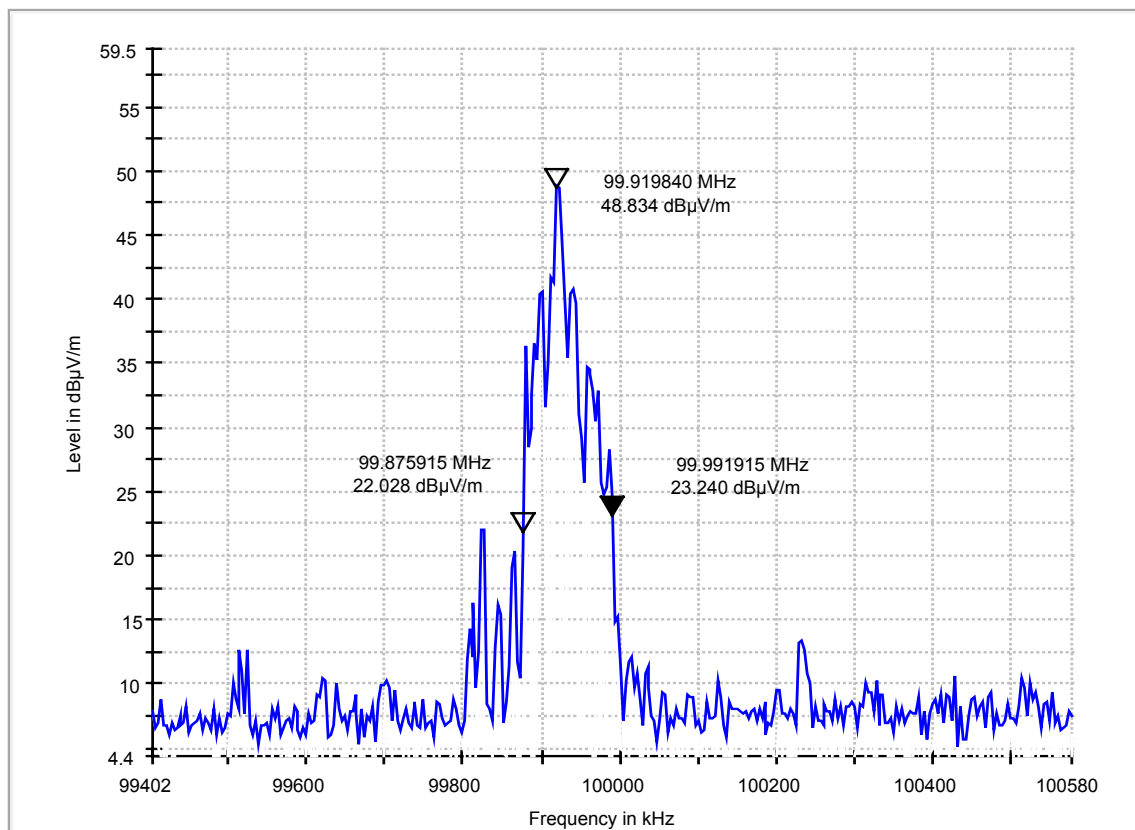
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_Bandwidth_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_Peak Vertical



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
99.91840	120.0	200.0	-80.0	3.0	10.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 99.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

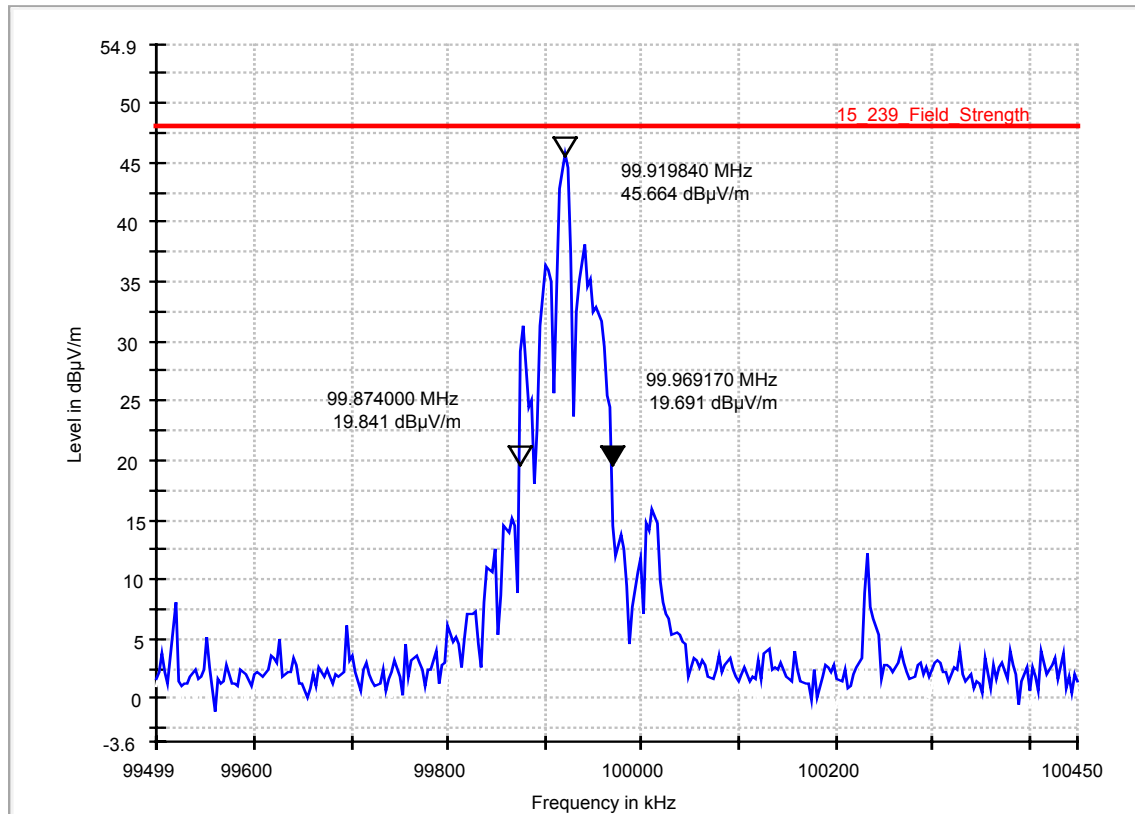
Sweep Setup: FCC_15_239_Bandwidth_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_AVG

Vertical



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
99.91840	90.0	200.0	-110.0	3.0	300.0	V	PASS

Frequency 107.9

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

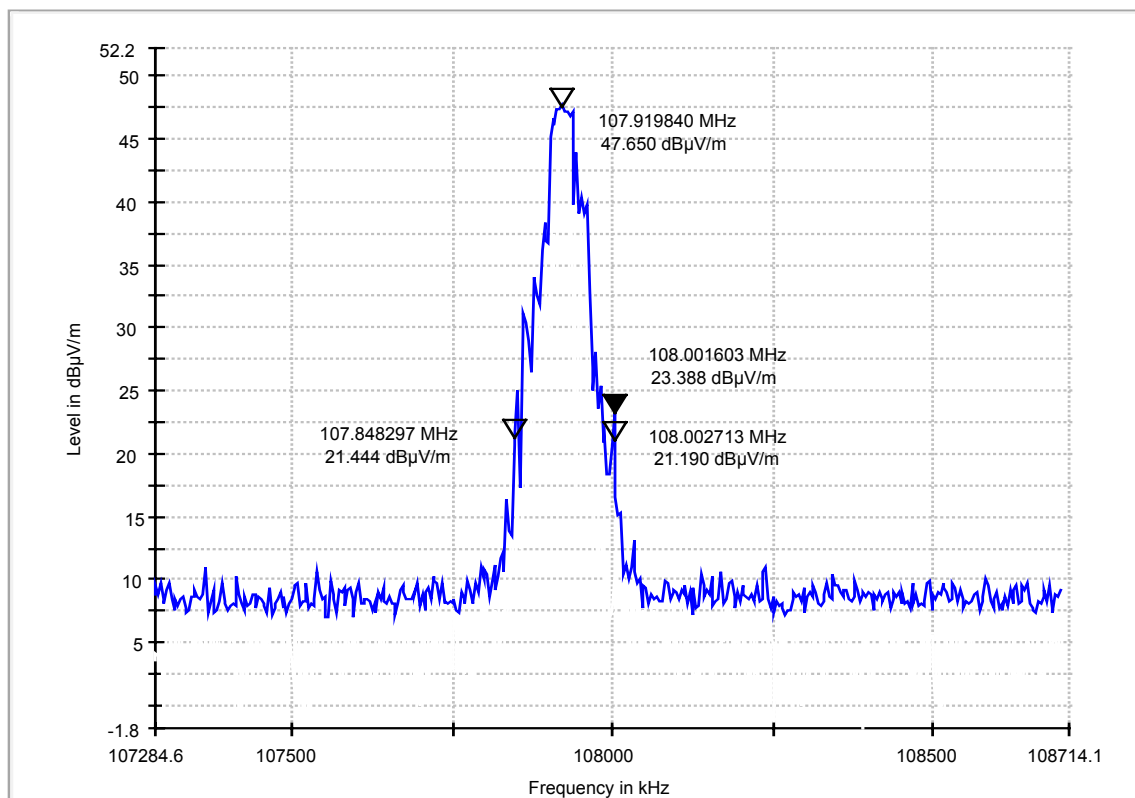
Sweep Setup: FCC_15_239_Bandwidth_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBμV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_Peak

Horizontal



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
107.919840	160.0	200.0	-40.0	3.0	10.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 107.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

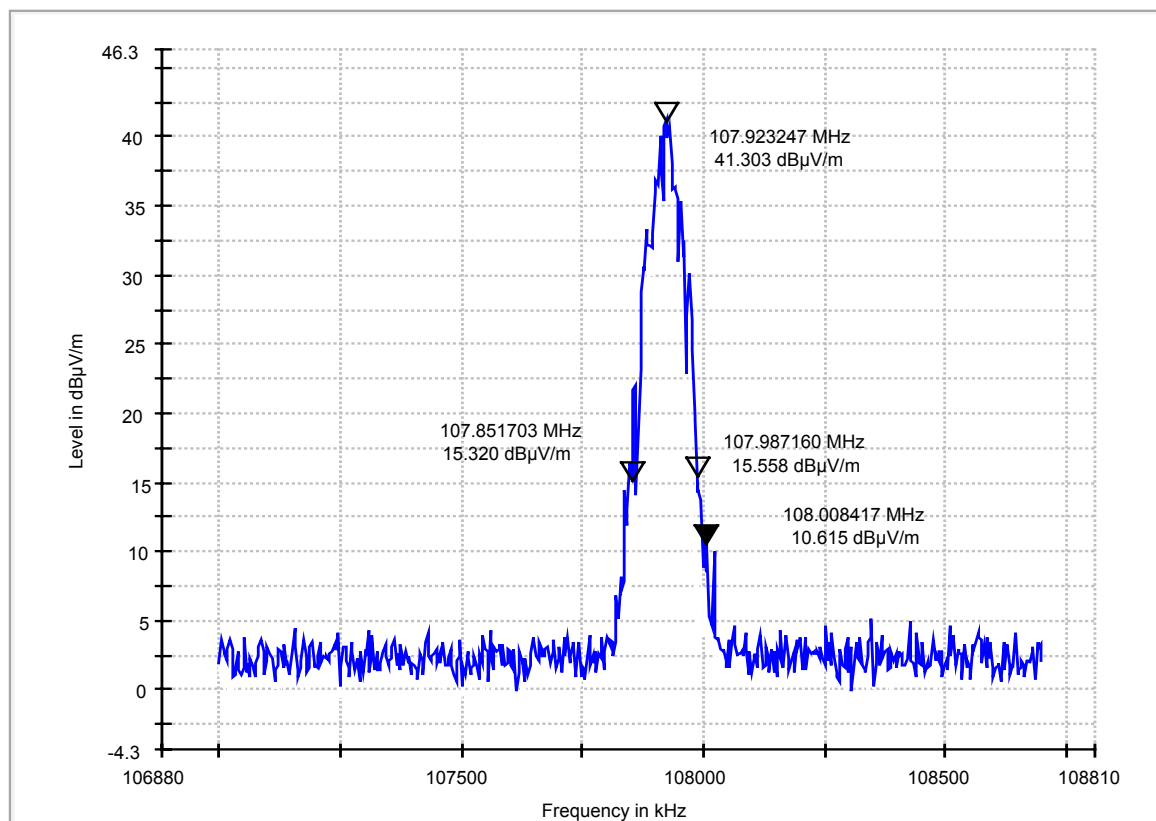
Sweep Setup: FCC_15_239_Bandwidth_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_AVG

Horizontal



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
107.923247	130.0	200.0	-70.0	3.0	300.0	H	PASS



Vertical

Test Information

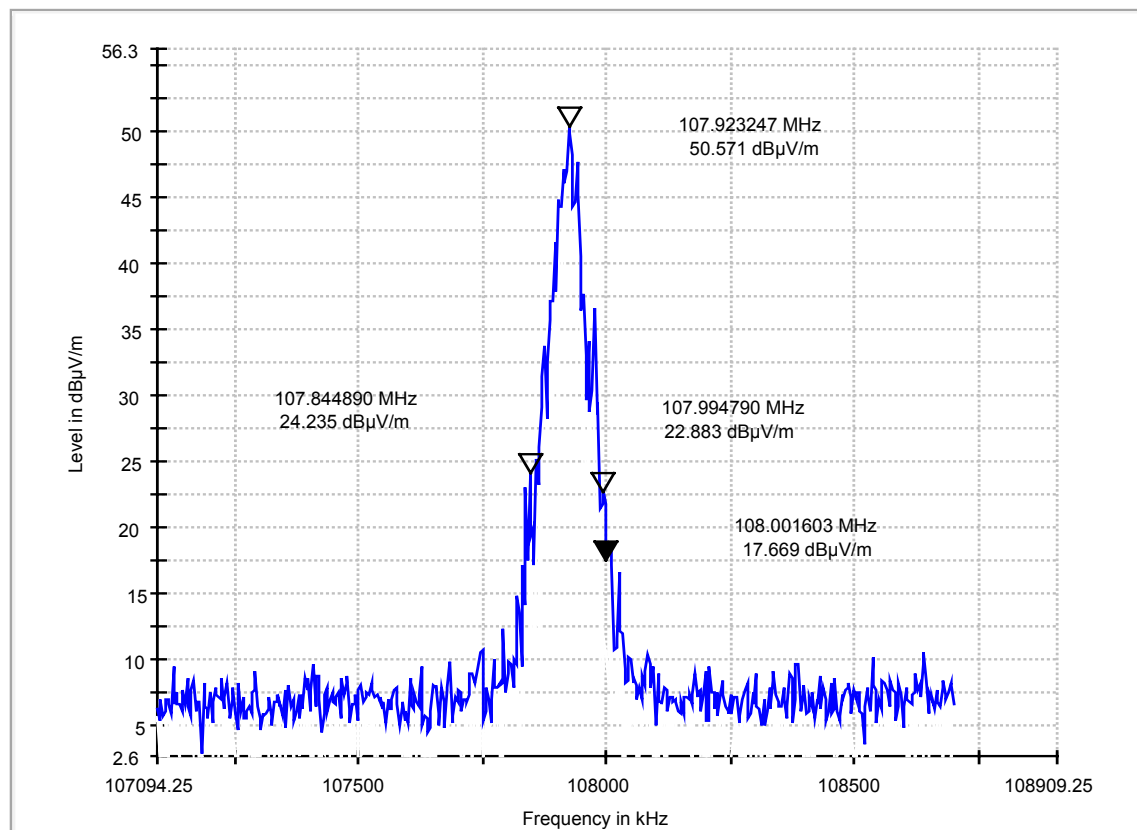
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_Bandwidth_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_Peak Vertical



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
107.923247	150.0	200.0	-50.0	3.0	10.0	V	PASS

**Test Information**

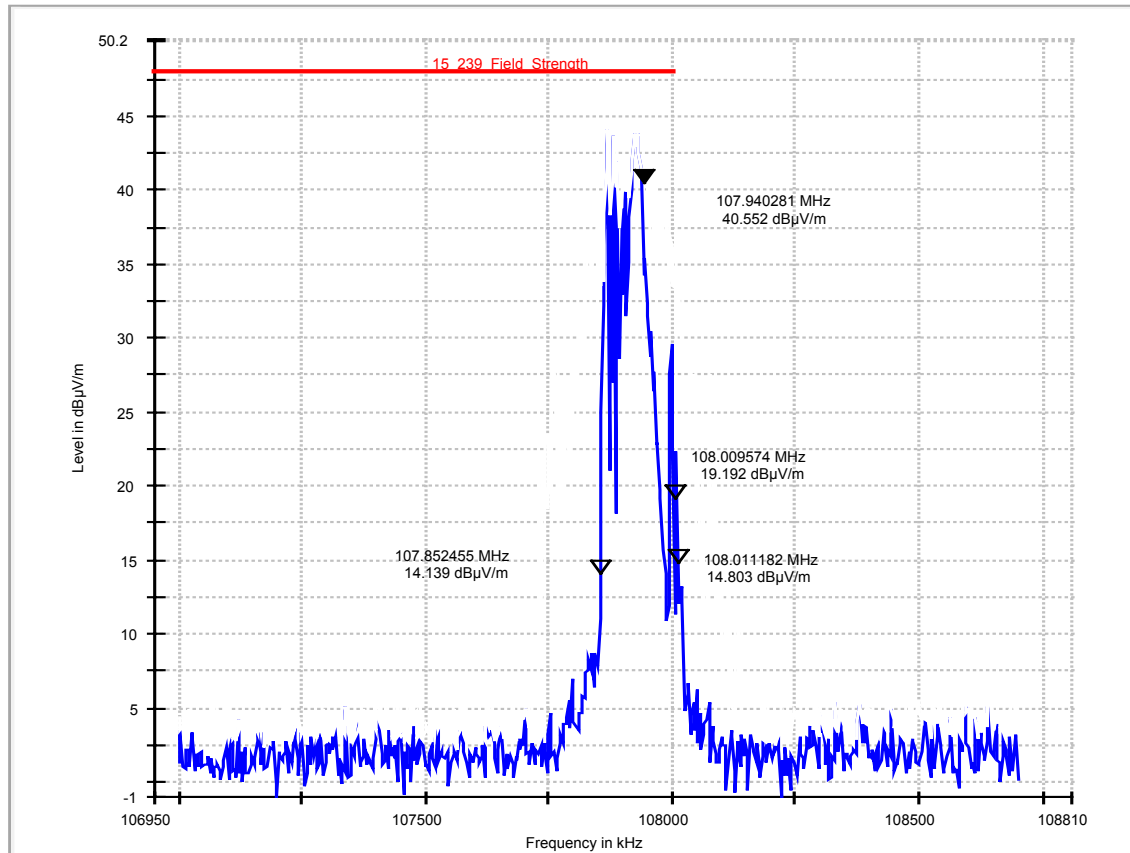
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Bandwidth
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_Bandwidth_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Bandwidth_AVG
Vertical



Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
107.940281	160.0	200.0	-40.0	3.0	300.0	V	PASS

4.4 BAND EDGES MEASUREMENT

4.4.1 LIMITS OF BAND EDGES MEASUREMENT

Emissions from the intentional radiator shall be confined within the highest field strength level of the carrier signal with –20dB below of operating band (in 3KHz Resolution Bandwidth).

For peak measurement it was set both RBW and VBW of spectrum analyzer to 3 kHz and 10 kHz with suitable frequency span. For average measurement it was set both RBW and VBW of spectrum analyzer to 3 kHz and 300 Hz with suitable frequency span. The band edges was measured from the highest field strength level of the carrier signal and subtracted from the edge of the band for frequencies 88.0 and 108.0 MHz.

4.4.2 TEST INSTRUMENTS

Device	Model No.	Serial No.	Last Cal.	Next Cal
Cable 1	8214	CBL-006	02/19/05	02/19/06
Cable 2	8268	CBL-002	02/19/05	02/19/06
ROHDE & SCHWARZ EMI Test Receiver	ESIB 40	100201	01/23/04	01/23/06
Tower 1	EMCO 1050	9310-1786	N/A	N/A
Turntable 1	EMCO 1060	9409-1753	N/A	N/A
Bilog Antenna	CBL6112B	2604	09/03/04	11/04/05
Shielded Semi-Anechoic Chamber	RANTEC	N/A	02/11/05	02/11/06
Temperature and Humidity Recorder	Dickson TH8-24C	5097755	09/16/03	09/16/05

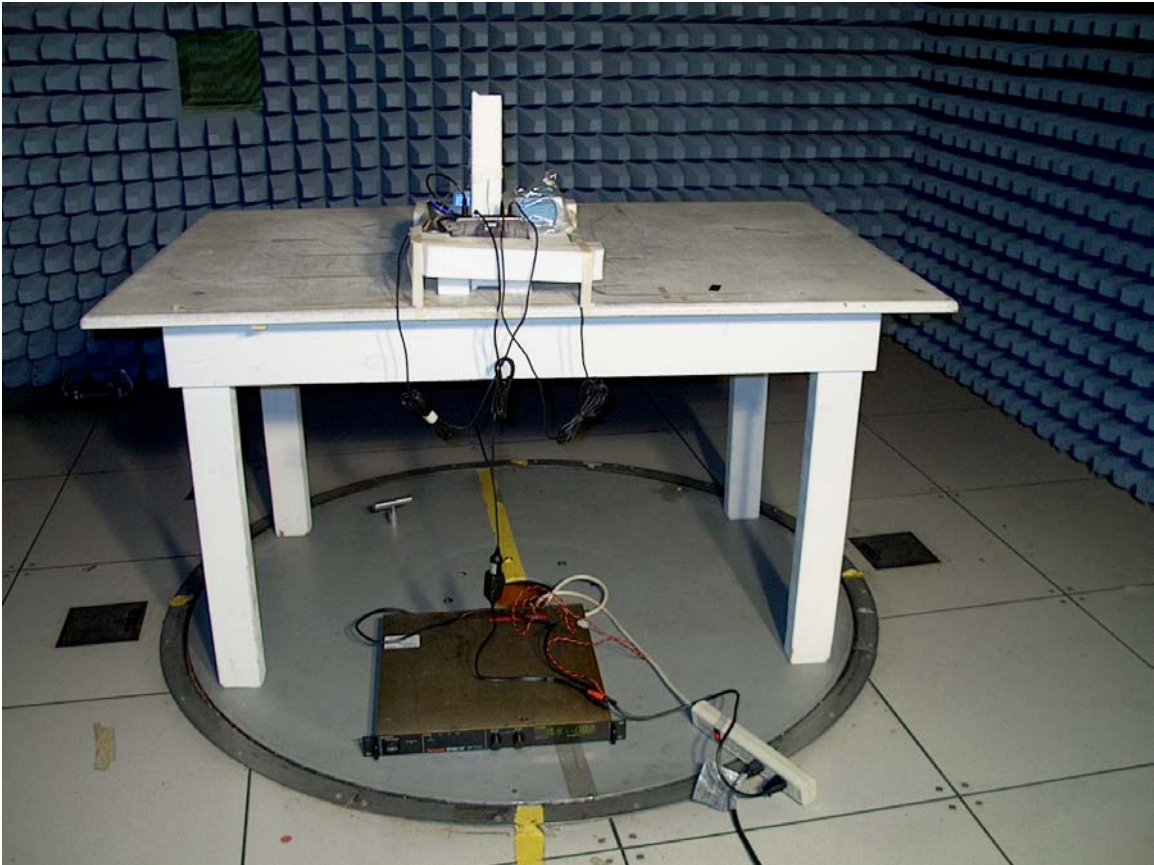
4.4.3 TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter Semi-Anechoic Chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a bilog antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SET UP



Band Edge Test
EUT placed at Z position
(Front View)

4.4.6 EUT OPERATING CONDITION

The EUT is continuously linked with the iPod at every channel frequency. There are three channel frequencies that were tested at 88.1MHz, and 107.9MHz. During the operating condition, voltage of 13.8VDC was tested. The EUT is tested for Z orthogonal positions. The typical modulation was used. This program was repeated continuously for the duration of the testing. The above mentioned set-up allowed the article to perform sufficiently for the test purposes and required time, i.e. produce radiated emissions.

**4.4.7 TEST RESULTS (EUT Position Z at 88.1, and 107.9 MHz)****EUT Position Z****Frequency 88.1 MHz****Horizontal****Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

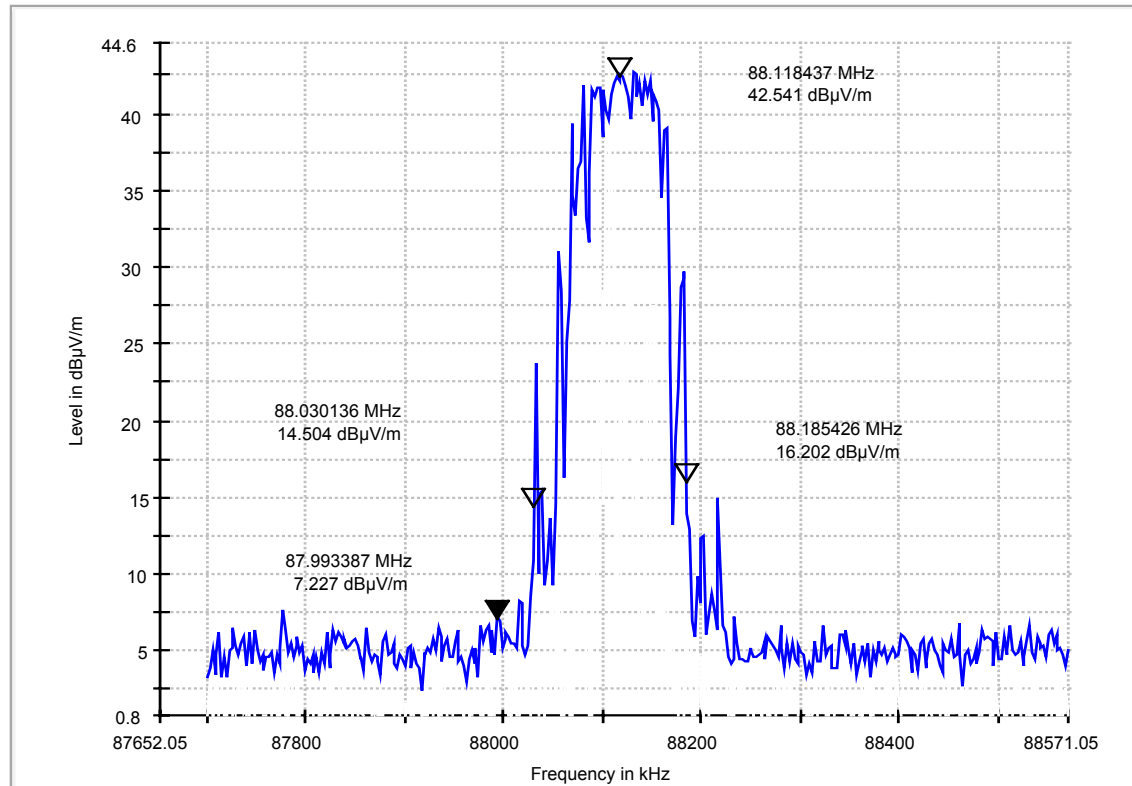
Sweep Setup: FCC_15_239_Band Edge_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_Peak

Horizontal



Frequency (MHz)	Field Strength (dBμV/m)	Band Edge (dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Polarity	Comment
88.118437	42.5	---	20.0	---	3.0	10.0	H	PASS
87.993387	7.2	35.3	20.0	-15.3	3.0	10.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

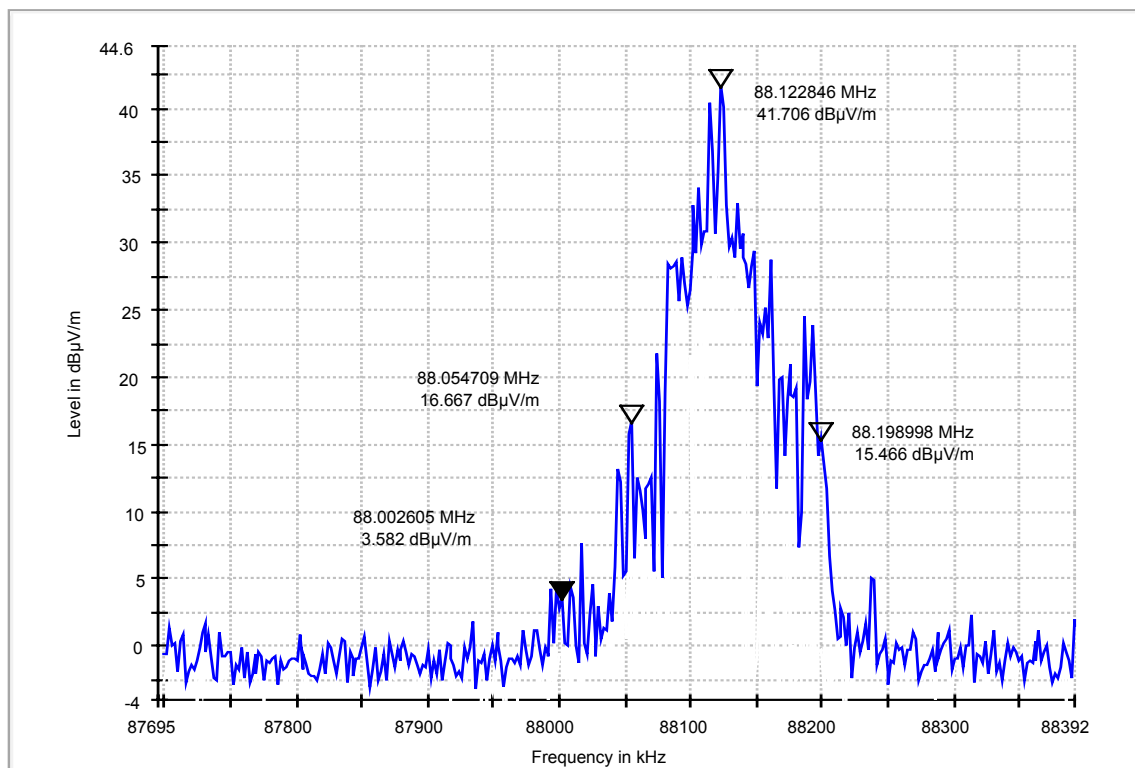
Sweep Setup: FCC_15_239_Band Edge_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_AVG

Horizontal



Frequency (MHz)	Field Strength (dBμV/m)	Band Edge (dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Polarity	Comment
88.122846	41.7	---	20.0	---	3.0	300.0	H	PASS
88.002605	3.5	38.2	20.0	-18.2	3.0	300.0	H	PASS



Vertical

Test Information

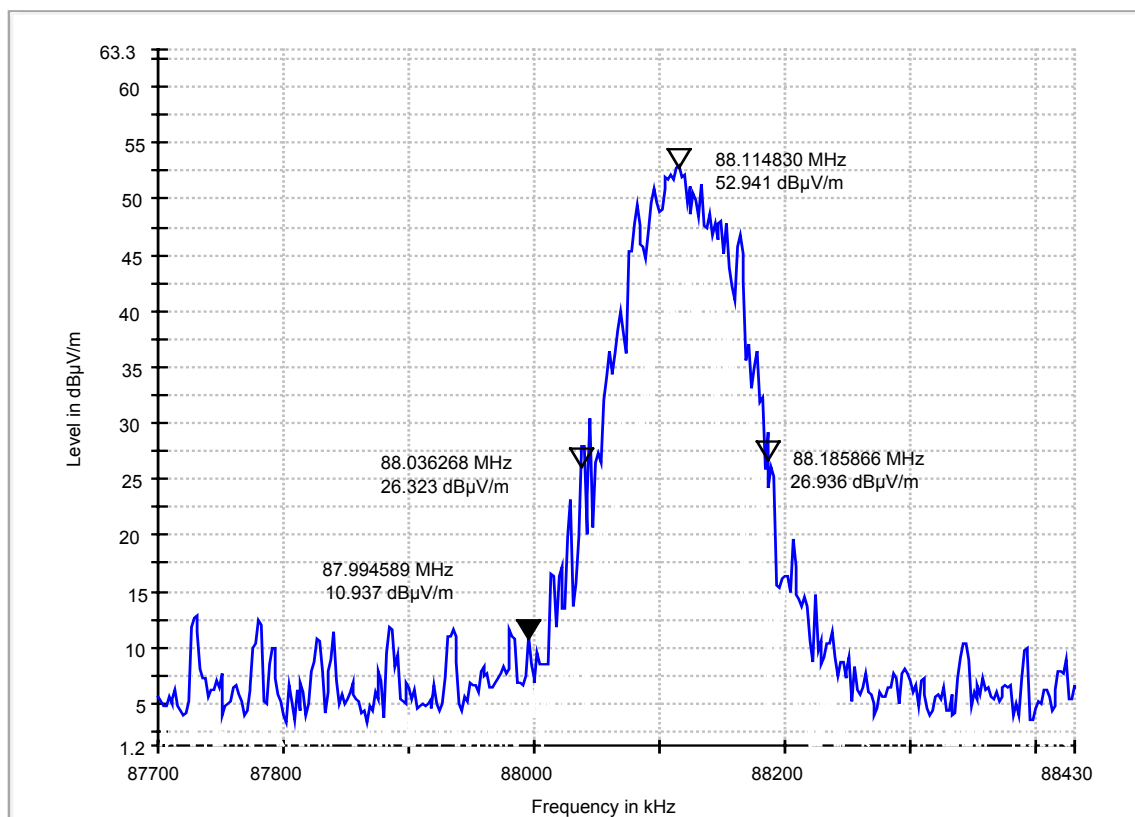
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_Band Edge_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_Peak Vertical



Frequency (MHz)	Field Strength (dBμV/m)	Band Edge (dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Polarity	Comment
88.114830	52.9	---	20.0	---	3.0	10.0	V	PASS
87.994589	10.9	42.0	20.0	-22.0	3.0	10.0	V	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 88.1MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

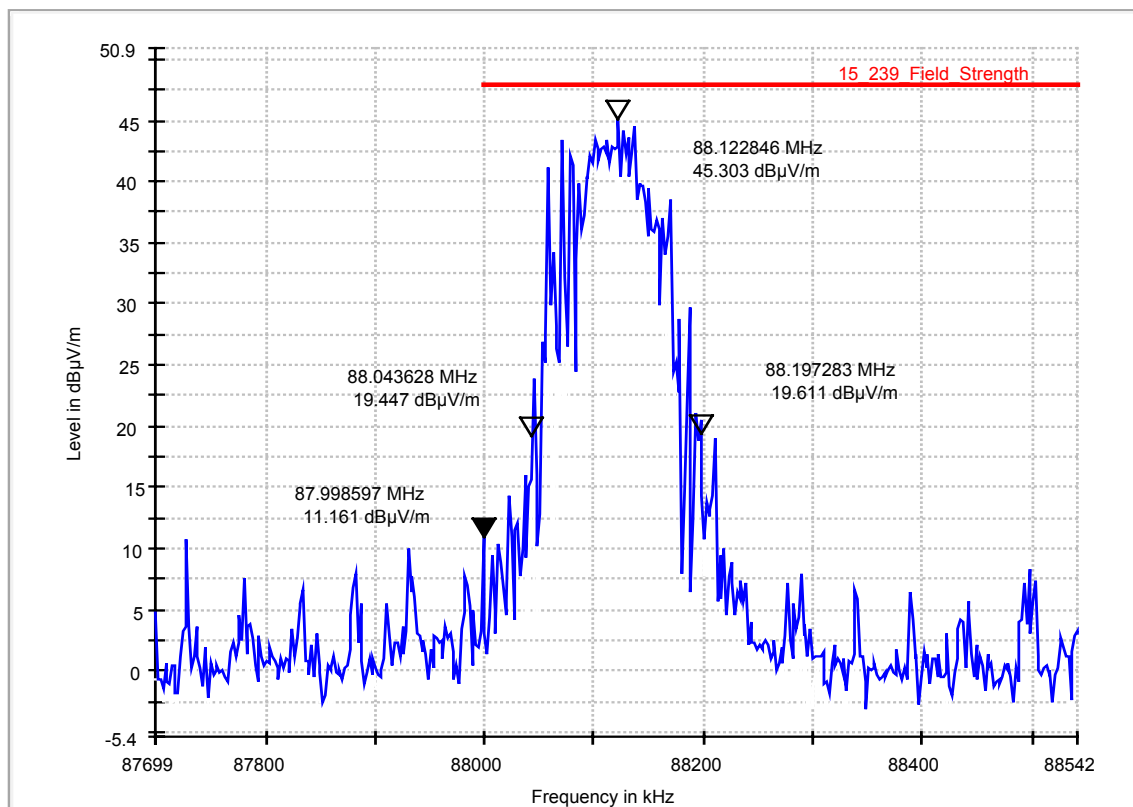
Sweep Setup: FCC_15_239_Band Edge_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_AVG

Vertical



Frequency (MHz)	Field Strength (dBµV/m)	Band Edge (dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
88.122846	45.3	---	20.0	---	3.0	300.0	V	PASS
87.998597	11.1	34.2	20.0	-14.2	3.0	300.0	V	PASS



Frequency 107.9

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

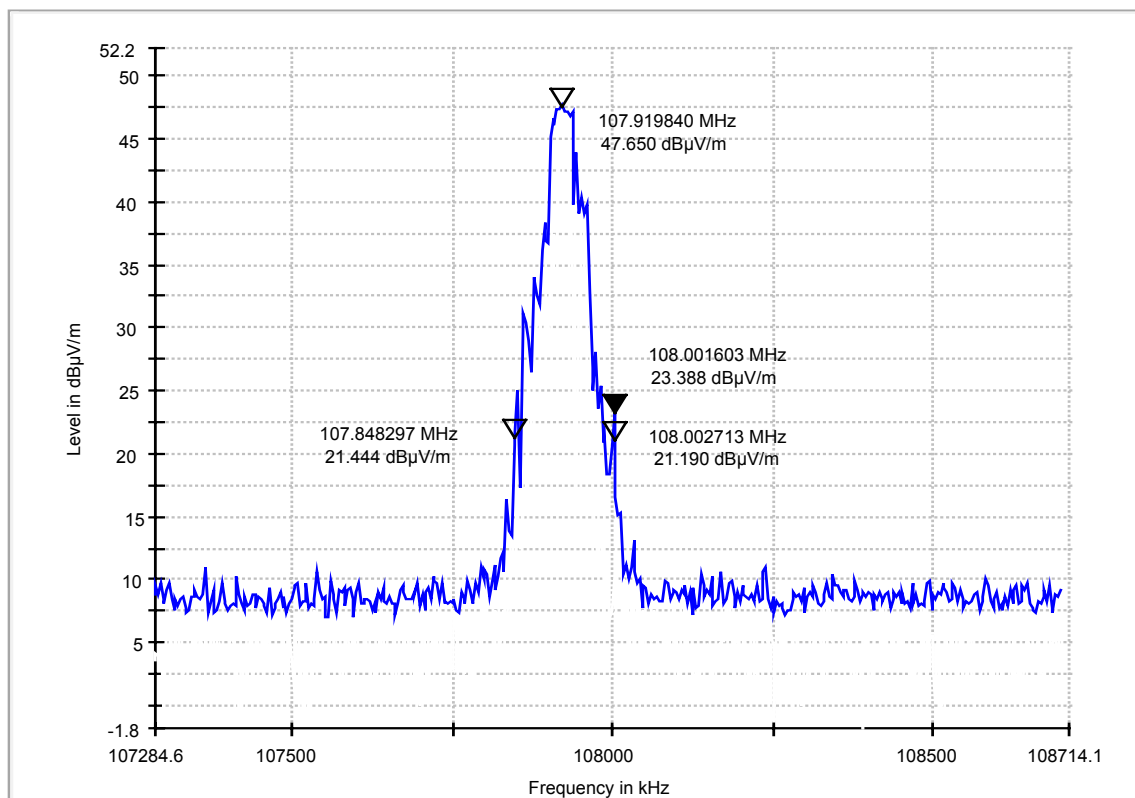
Sweep Setup: FCC_15_239_Band Edge_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBμV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_Peak

Horizontal



Frequency (MHz)	(dBμV/m)	(dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Polarity	Comment
107.919840	47.6	---	20.0	---	3.0	10.0	H	PASS
108.001603	23.3	24.3	20.0	-4.3	3.0	10.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 107.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

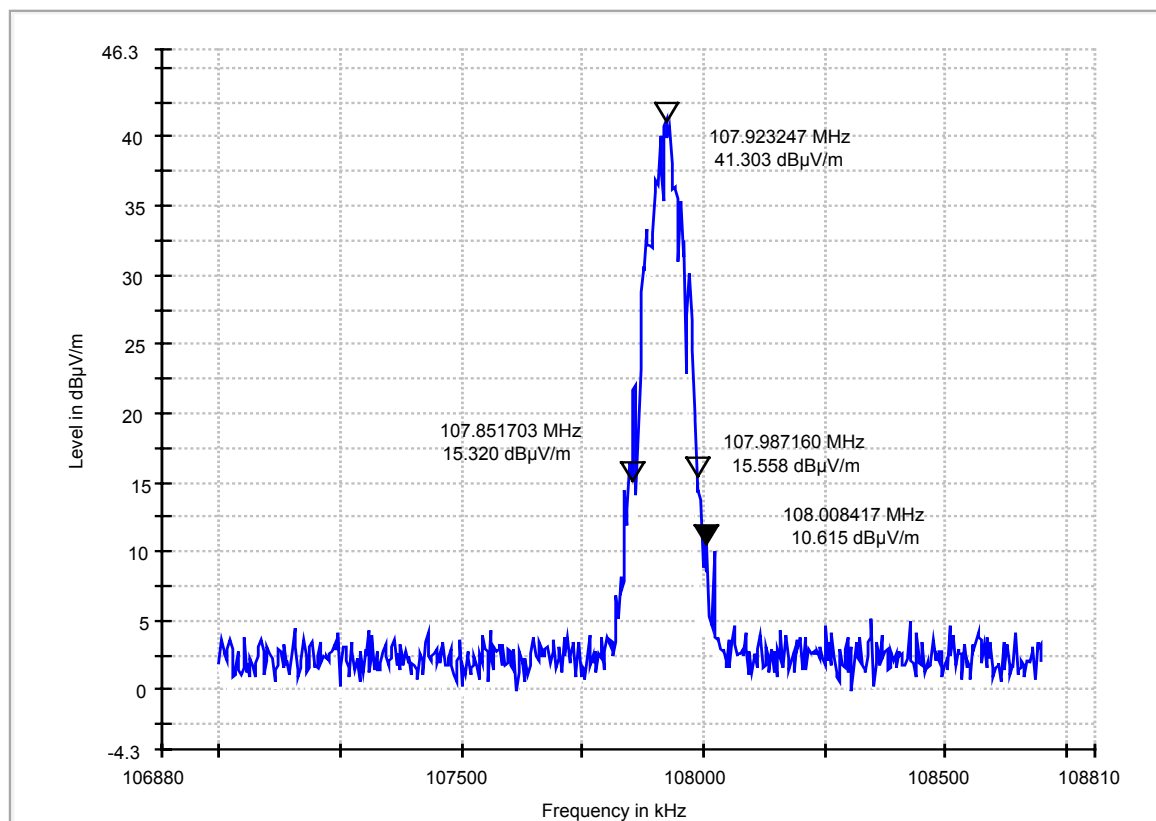
Sweep Setup: FCC_15_239_Band Edge_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_AVG

Horizontal



Frequency (MHz)	Field Strength (dBμV/m)	Band Edge (dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Polarity	Comment
107.923247	41.3	---	20.0	---	3.0	300.0	H	PASS
108.008417	10.6	30.7	20.0	-10.7	3.0	300.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

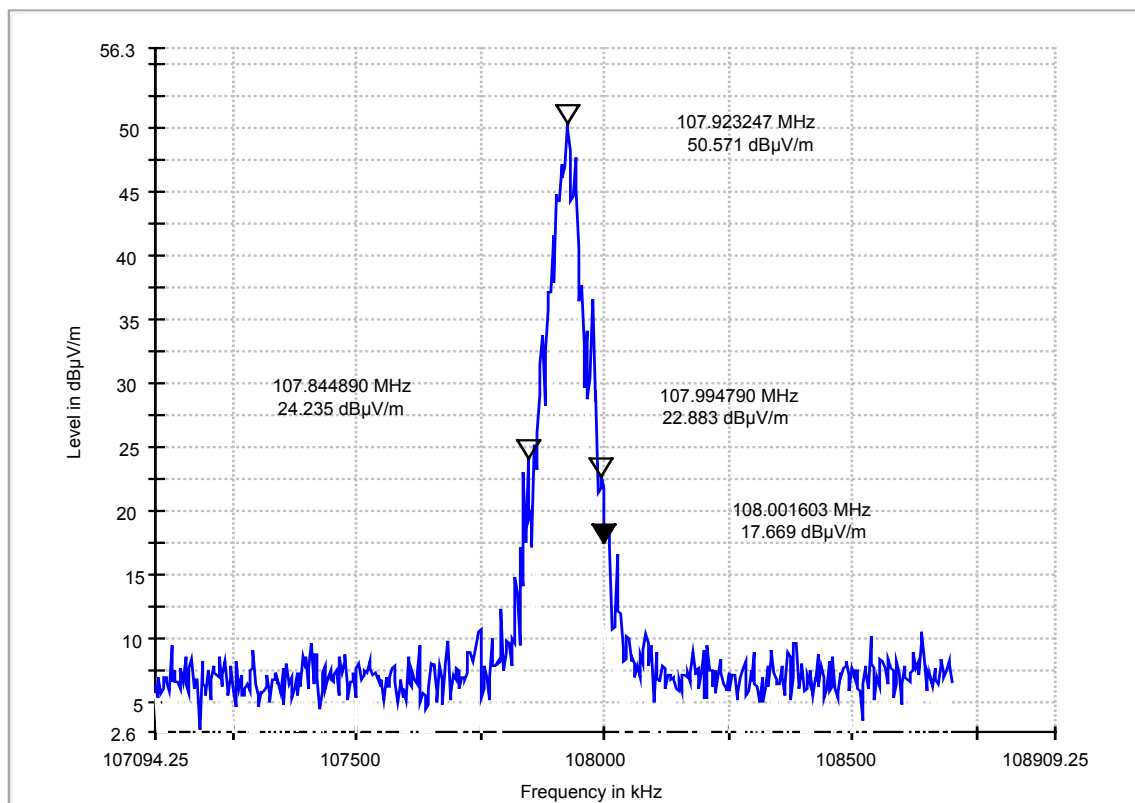
Sweep Setup: FCC_15_239_Band Edge_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_Peak

Vertical



(MHz)	(dBμV/m)	(dbc)	(dbc)	(db)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
107.923247	50.5	---	20.0	---	3.0	10.0	V	PASS
108.001603	17.6	32.9	20.0	-12.9	3.0	10.0	V	PASS

**Test Information**

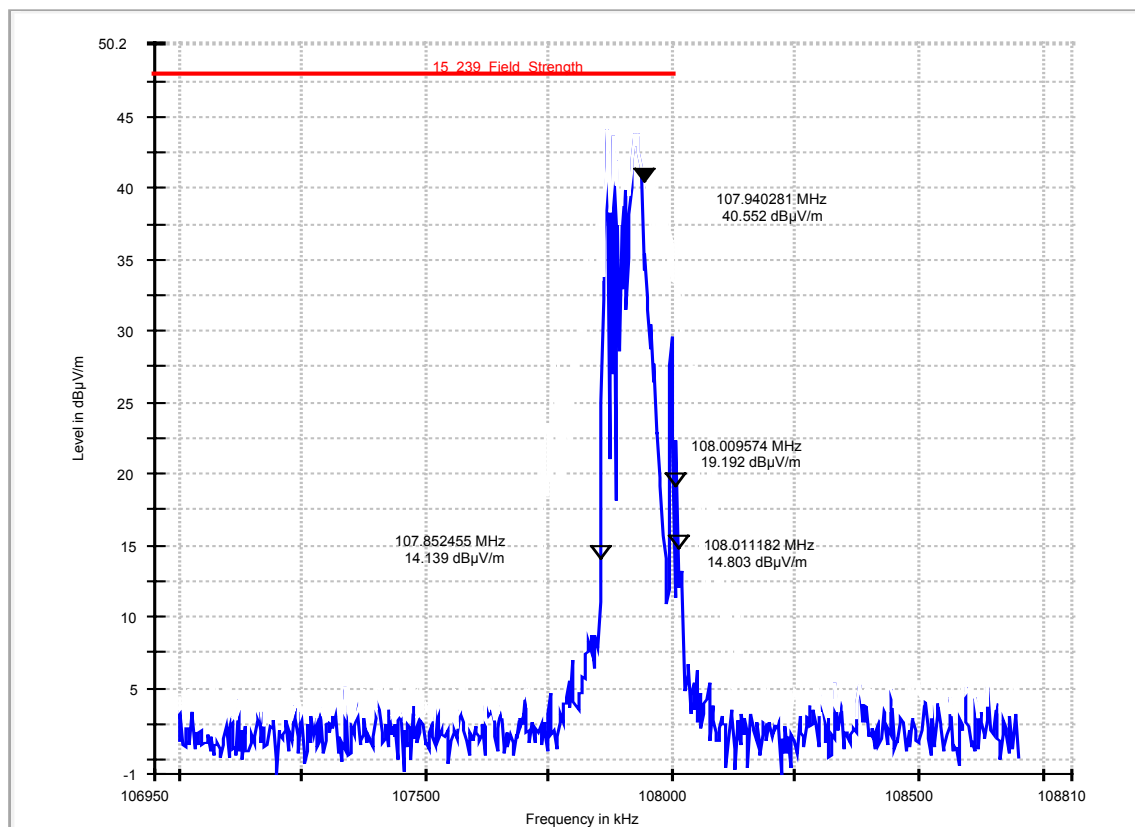
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Band Edge
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_Band Edge_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Band Edge_AVG
Vertical



(MHz)	(dBμV/m)	(dbc)	Limit (dbc)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
107.940281	40.5	---	20.0	---	3.0	300.0	V	PASS
108.009574	19.1	21.4	20.0	-1.4	3.0	300.0	V	PASS

4.5 RESTRICTED BANDS OF OPERATION

4.5.1 LIMITS OF RESTRICTED BANDS OF OPEARATION

43.5 dBuV/m in the following restricted bands of operations: 108 MHz

4.5.2 TEST INSTRUMENTS

Device	Model No.	Serial No.		Next Cal
Cable 1	8214	CBL-006	02/19/05	02/19/06
Cable 2	8268	CBL-002	02/19/05	02/19/06
ROHDE & SCHWARZ EMI Test Receiver	ESIB 40	100201	01/23/04	01/23/06
Tower 1	EMCO 1050	9310-1786	N/A	N/A
Turntable 1	EMCO 1060	9409-1753	N/A	N/A
Bilog Antenna	CBL6112B	2604	09/03/04	11/04/05
Shielded Semi-Anechoic Chamber	RANTEC	N/A	02/11/05	02/11/06
Temperature and Humidity Recorder	Dickson TH8-24C	5097755	09/16/03	09/16/05

4.5.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter Semi-Anechoic Chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a Horn antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.

The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

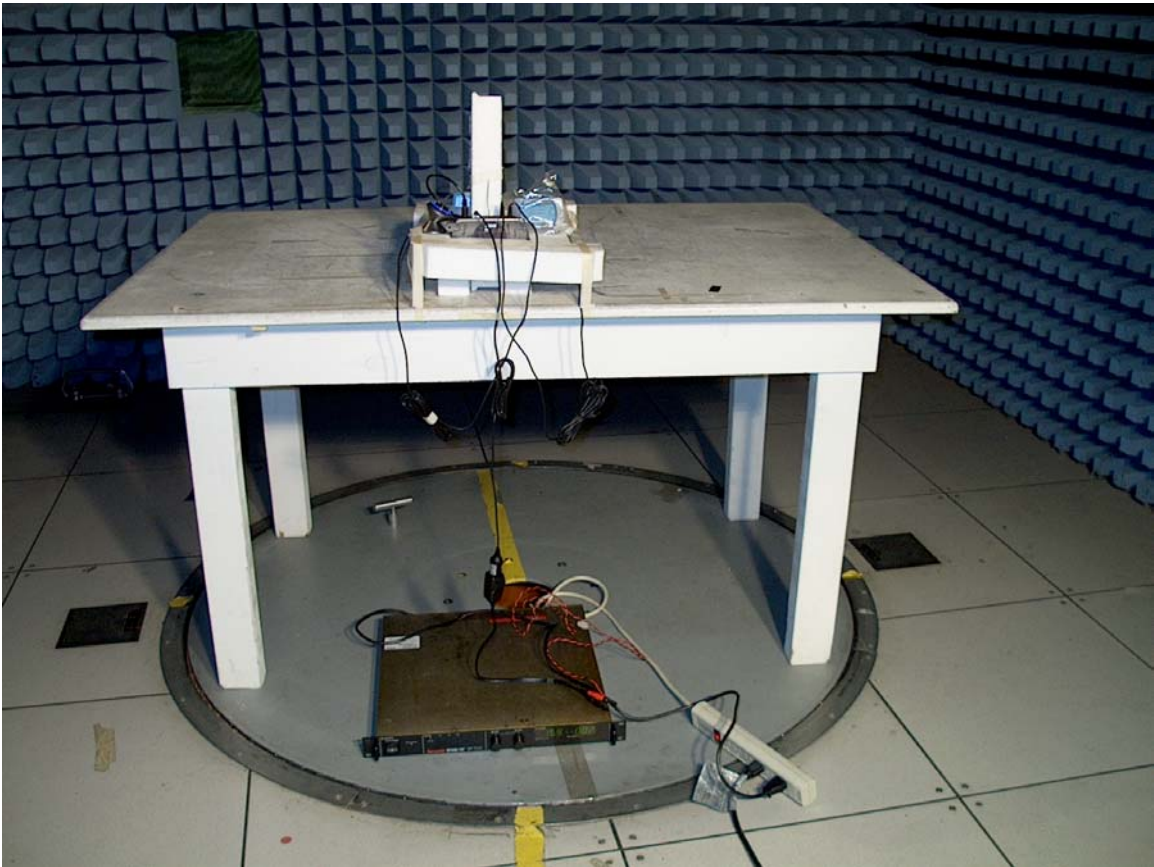
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 3 kHz, 10kHz for Peak detection (PK) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 3 kHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency below 1GHz.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SET UP



Restricted Band Test
EUT placed at Z position
(Front View)

4.5.6 EUT OPERATING CONDITION

The EUT is continuously linked with the iPod at every channel frequency. There are three channel frequencies that were tested at 88.1MHz, 99.9MHz, and 107.9MHz. During the operating condition, voltage of 13.8VDC was tested. The EUT is tested for Z orthogonal positions. The typical modulation was used.

This program was repeated continuously for the duration of the testing. The above mentioned set-up allowed the article to perform sufficiently for the test purposes and required time, i.e. produce radiated emissions.

4.5.7 TEST RESULTS (EUT Position Z at 107.9 MHz))

EUT Position Z

Frequency 107.9

Horizontal

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Restricted Band
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

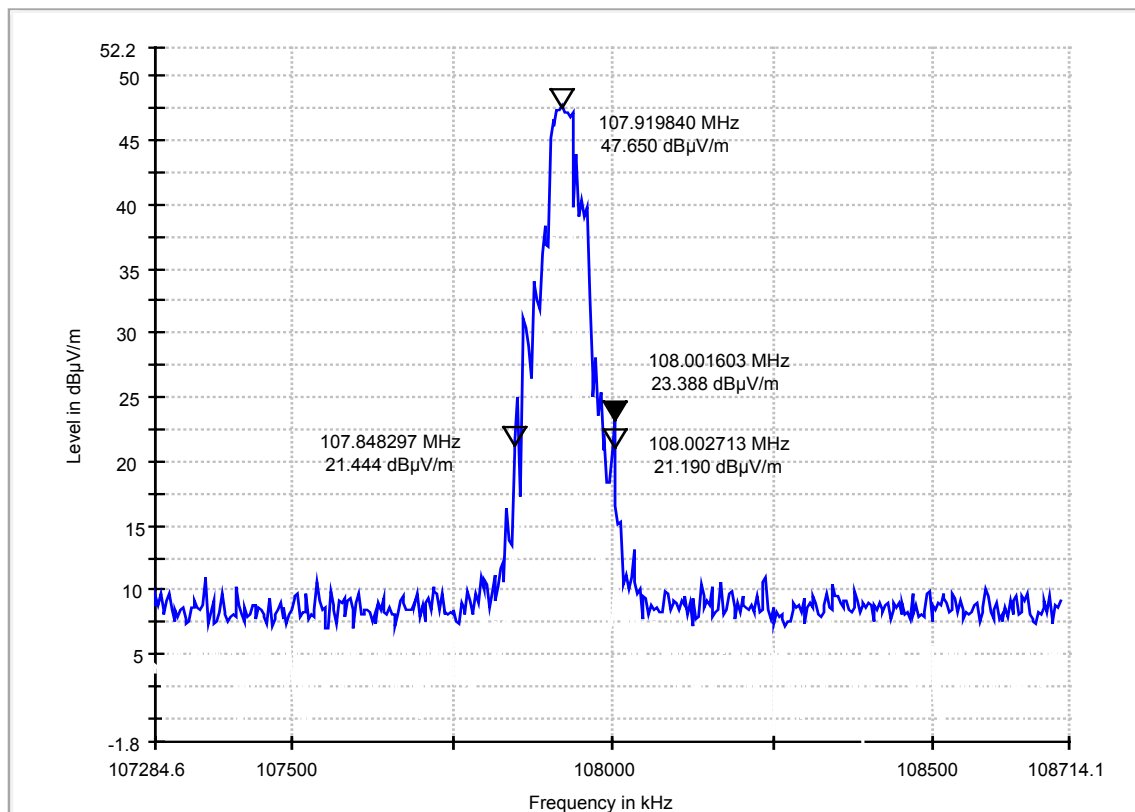
Sweep Setup: FCC_15_239_Restricted Band _Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Restricted Band_Peak

Horizontal



(MHz)	(dBμV/m)	Limit (dBμV/m)	(db)	Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
108.001603	23.3	43.5	-20.2	3.0	10.0	H	PASS

**Test Information**

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Restricted Band
Operating Conditions:	13.8 VDC Typical Modulation 107.9 MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Horizontal Polarization

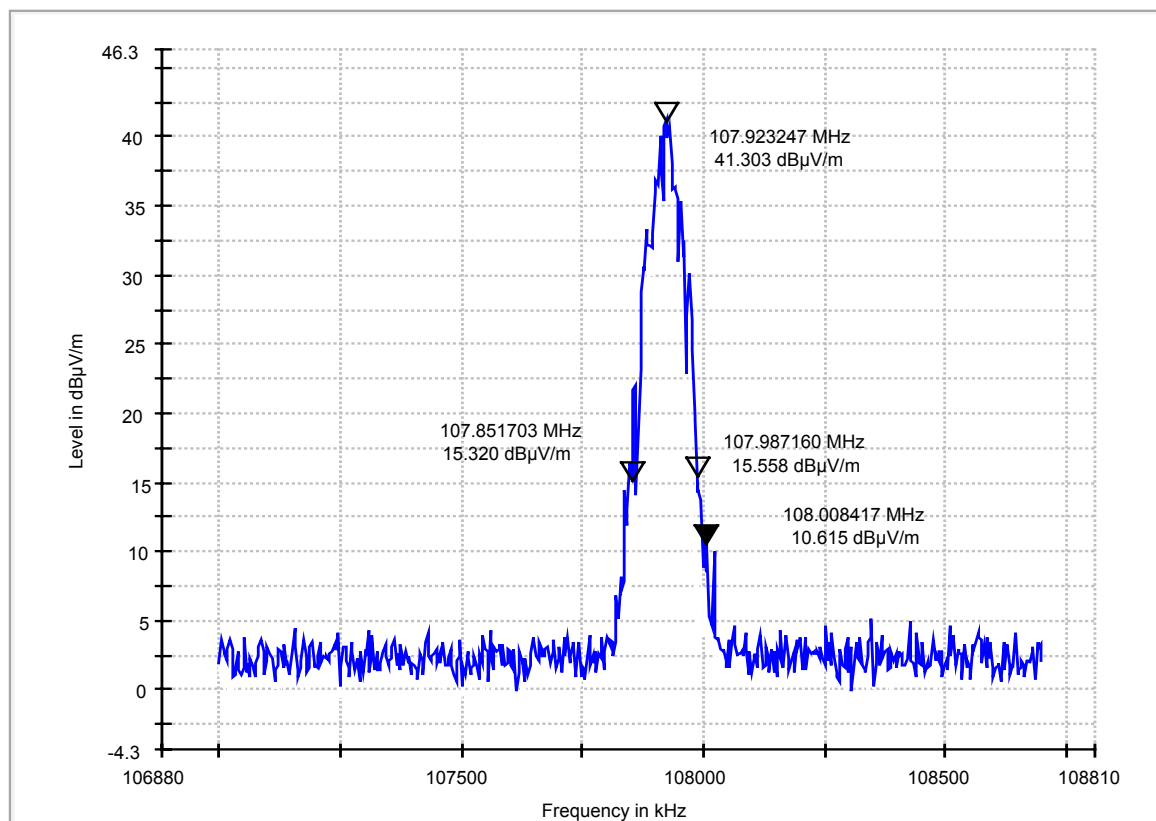
Sweep Setup: FCC_15_239_Restricted Band _AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Restricted Band_AVG

Horizontal



Frequency (MHz)	(dBμV/m)	(dBμV/m)	Margin (db)	Bandwidth (kHz)	Bandwidth (Hz)	Antenna Polarity	
108.008417	10.6	43.5	-32.9	3.0	300.0	H	PASS



Vertical

Test Information

EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Restricted Band
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

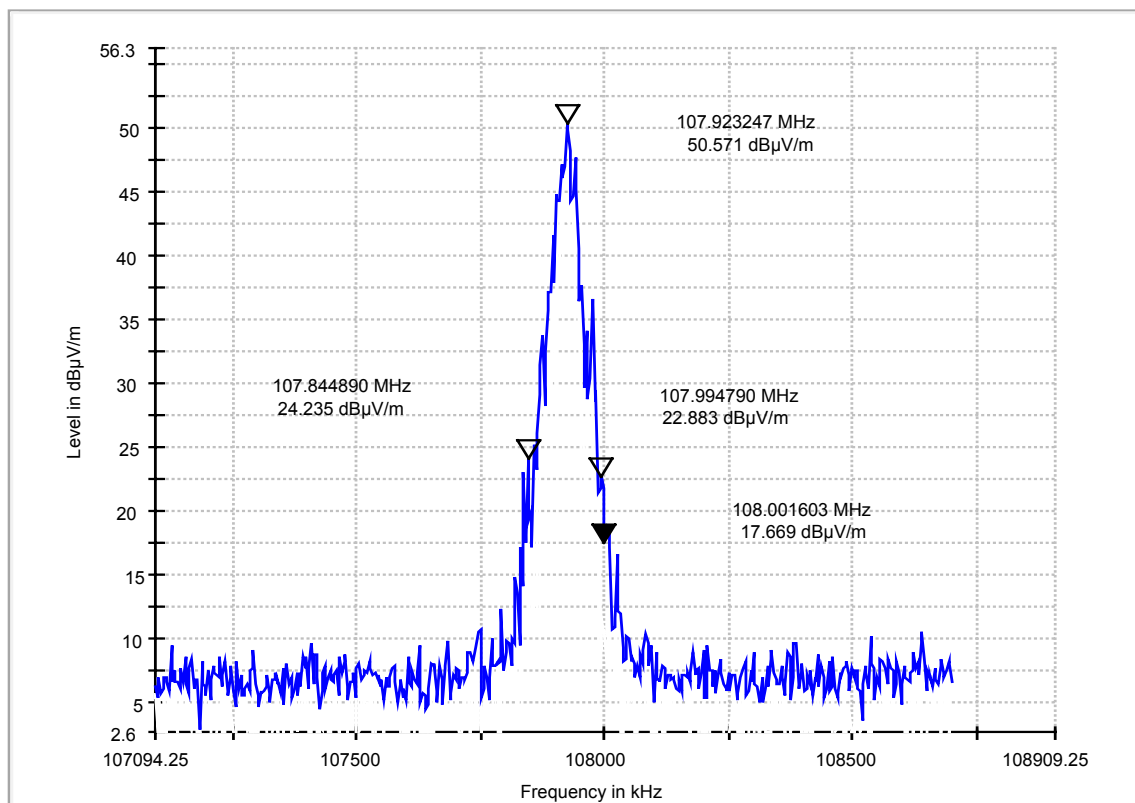
Sweep Setup: FCC_15_239_Restricted Band_Peak [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Restricted Band_Peak

Vertical



Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (kHz)	Antenna Polarity	Comment
108.001603	17.6	43.5	-25.9	3.0	10.0	V	PASS

**Test Information**

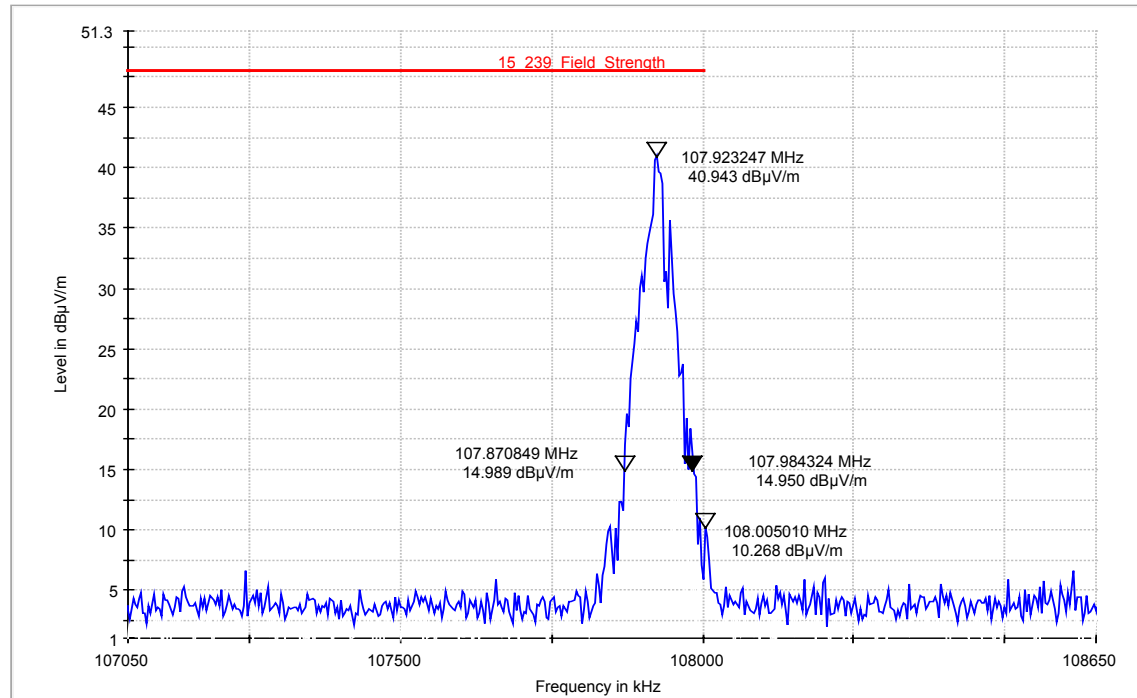
EUT Name:	FM_TX_TextCommander
Serial Number:	N/A
Test Description:	FCC_15_239 Restricted Band
Operating Conditions:	13.8 VDC Typical Modulation 107.9MHz
Operator Name:	Jeff Banting
Comment:	Axis-Z Vertical Polarization

Sweep Setup: FCC_15_239_Restricted Band_AVG [EMI radiated]

Hardware Setup:	EMI 1GHz
Level Unit:	dB μ V/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
87MHz - 109MHz	MaxPeak	3kHz	0.005s	Receiver

FCC_15_239_Restricted Band_AVG
Vertical



Frequency (MHz)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (db)	Resolution Bandwidth (kHz)	Video Bandwidth (Hz)	Antenna Polarity	Comment
108.005010	10.3	43.5	-33.2	3.0	300.0	V	PASS

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ISO 9002:1994

Certificate of Accreditation



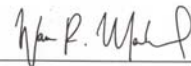
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CHATSWORTH, CA

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ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

March 31, 2006

Effective through



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THE END OF THE REPORT