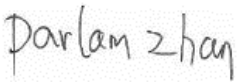
TEST REPORT

Application No.:	SHCR2503000535ME
FCC ID:	OU5MULW01
Applicant:	GE Medical Systems Information Technologies, Inc.
Address of Applicant:	3114 N Grandview Blvd Waukesha, WI 53188, USA
Manufacturer:	GE Medical Systems Information Technologies, Inc.
Address of Manufacturer:	3114 N Grandview Blvd Waukesha, WI 53188, USA
Equipment Under Test (EUT):	
EUT Name:	WLAN Module
Model No.:	WLANCSMOD
Trade Mark:	GE HealthCare
Standard(s) :	47 CFR Part 15, Subpart C 15.247 RSS-247 Issue 3, August 2023 RSS-Gen Issue 5 Amendment 2 (February 2021)
Date of Receipt:	2025-03-12
Date of Test:	2025-03-13 to 2025-04-14
Date of Issue:	2025-04-15
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Revision Record			
Version	**Description**	**Date**	**Remark**
00	Original	2025-04-15	/

Authorized for issue by:				
Tested By		 **Wade Zhang/Project Engineer**		
Approved By		 **Parlam Zhan / Reviewer**		

2 Test Summary

Radio Spectrum Matter Part				
Item	**FCC Requirement**	**IC Requirement**	**Method**	**Result**
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.205 & 15.209	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.10.5	Pass
Radiated Spurious Emissions Below 1GHz	47 CFR Part 15, Subpart C 15.205 & 15.209	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.4,6.5	Pass
Radiated Spurious Emissions Above 1GHz	47 CFR Part 15, Subpart C 15.205 & 15.209	RSS-247 Section 3.3 & RSS-Gen Section 8.9	ANSI C63.10 (2013) Section 6.6	Pass

Remark: New optional BT&WIFI antenna(s) changed to the original module, Radiated Spurious Emission tests were performed to verify RF compliance, other test data reference to original module report KSCR241000206801.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 3.3V
Test voltage:	DC 3.3V
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	V4.1 Dual mode
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Number of Channels:	79
Channel Spacing:	1MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Antenna Type:	FPC Antenna
Antenna Gain:	4.43 dBi (Provided by manufacturer)
Antenna Number:	1

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
PC	GE	-	-

4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty cycle	0.4%
4	Occupied Bandwidth	3%
5	RF conducted power	0.6dB
6	RF power density	2.9dB
7	Conducted Spurious emissions	0.75dB
8	RF Radiated power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious emission test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-6GHz)
		5.4dB (6GHz-18GHz)
10	Temperature test	1°C
11	Humidity test	3%
12	Supply voltages	1.5%
13	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4.4 Test Location

All tests were performed at:
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China
Tel: +86 21 6191 5666 Fax: +86 21 6191 5678
No tests were sub-contracted.
Note:
1. SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).
3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA (Certificate No. 6332.01)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

• FCC (Designation Number: CN1301)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

• ISED (CAB Identifier: CN0020)

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.
Company Number: 8617A

• VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Conducted Test					
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2024/12/18	2025-12-17
Spectrum Analyzer	Keysight	N9020B	SHEM241-1	2024/12/18	2025-12-17
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2024-07-31	2025-07-30
Signal Generator	R&S	SMR20	SHEM006-1	2024-07-31	2025-07-30
Signal Generator	Agilent	N5182A	SHEM182-1	2024-07-31	2025-07-30
Communication Tester	R&S	CMW270	SHEM183-1	2024-05-23	2025-05-22
Communication Tester	R&S	CMW500	SHEM268-1	2024-05-23	2025-05-22
Power Sensor	Keysight	U2021XA * 4	SHEM293-1	2024-07-31	2025-07-30
Splitter	Anritsu	MA1612A	SHEM185-1	/	/
Coupler	e-meca	803-S-1	SHEM186-1	/	/
High-low Temp Cabinet	Suzhou Zhihe	TL-40	SHEM087-1	2024-11-05	2026-11-04
AC Power Stabilizer	APC	KDF-31020T-V0-F0	SHEM216-1	2024/12/18	2025-12-17
DC Power Supply	HP	6010A	SHEM222-1	2024/12/18	2025-12-17
Conducted test Cable	/	RF01~RF04	/	2024/12/18	2025-12-17
Switcher	Tonscend	JS0806	SHEM293-1	2024-07-31	2025-07-30
Test software	Tonscend	JS Tonscend BT/WIFI System	Version: 2.6	/	/
Switcher+Power Sensor	TST	TSPS2023R	SHEM263-1	2024-07-31	2025-07-30
Test software	TST	TST PASS	Version: 2.0	/	/
RF Radiated Test					
EMI test Receiver	R&S	ESU40	SHEM051-1	2024/12/18	2025-12-17
Spectrum Analyzer	R&S	FSP-30	SHEM002-1	2024/12/18	2025-12-17
Communication Tester	R&S	CMW500	SHEM268-1	2024-05-23	2025-05-22
Loop Antenna (9kHz-30MHz)	Schwarzbeck	FMZB1519	SHEM135-1	2024/12/18	2025-12-17
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM048-1	2023-09-03	2025-09-02
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM202-1	2023-04-17	2025-04-16
Horn Antenna (1-18GHz)	Schwarzbeck	HF906	SHEM009-1	2024-08-05	2026-08-04
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2023-09-03	2025-09-02
Horn Antenna (14-40GHz)	Schwarzbeck	BBHA 9170	SHEM049-1	2023-09-03	2025-09-02
Pre-Amplifier	HP	8447D	SHEM236-1	2024/12/18	2025-12-17
High-amplifier (14-40GHz)	Schwarzbeck	10001	SHEM049-2	2024/12/18	2025-12-17
Band Filter	LORCH	9BRX-875/X150	SHEM156-1	/	/
Band Filter	LORCH	13BRX-1950/X500	SHEM083-2	/	/
Band Filter	LORCH	5BRX-2400/X200	SHEM155-1	/	/
Band Filter	LORCH	5BRX-5500/X1000	SHEM157-2	/	/
High pass Filter	Wainwright	WHK3.0/18G	SHEM157-1	/	/
High pass Filter	Wainwright	WHKS1700	SHEM157-3	/	/
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2023-05-06	2026-05-05
RE test Cable	/	PT18-NMNM-10M	SHEM217-2	2024/12/18	2025-12-17
Test software	ESE	E3	Version: 6.111221a	/	/

6 Radio Spectrum Matter Test Results

6.1 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2013) Section 6.10.5
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.		

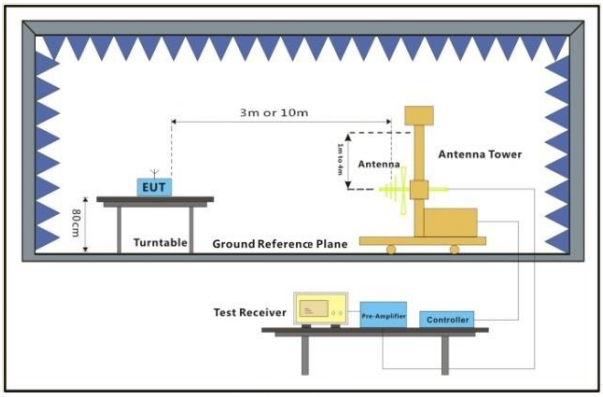
6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

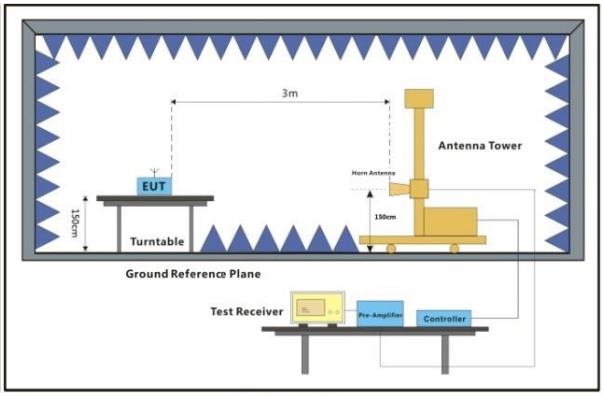
6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

6.1.3 Test Setup Diagram



30MHz-1GHz



Above 1GHz

6.1.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna 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.

e. 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

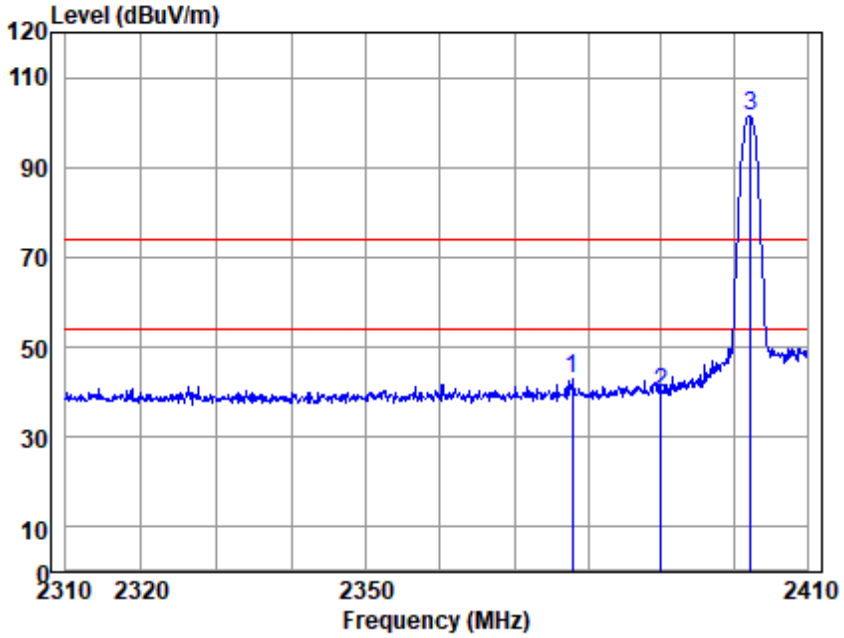
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

Remark 3: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

Remark 4:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geqslant$1/T (Duty cycle$<$98%) or 10Hz (Duty cycle$\geqslant$98%) for Average detection (AV) at frequency above 1GHz.

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low

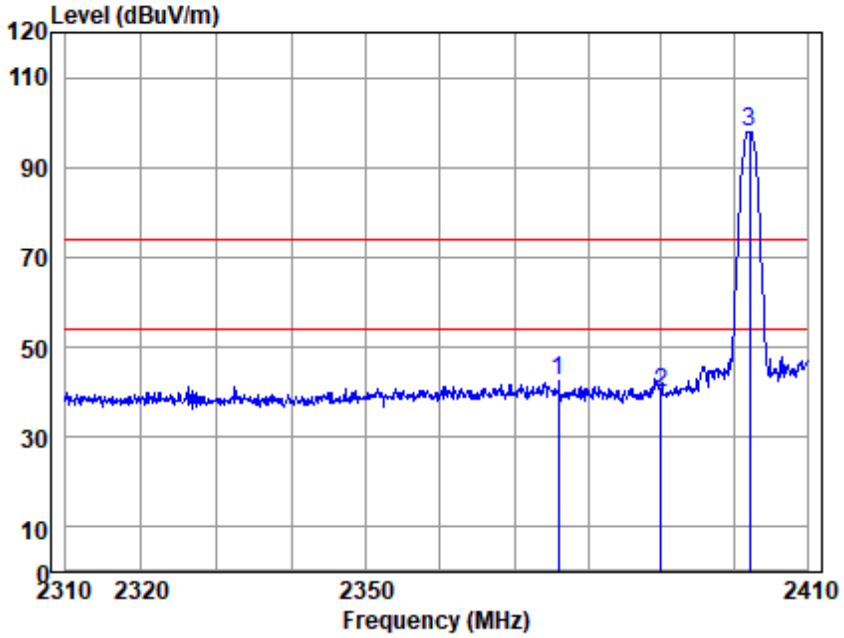


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2377.941	45.94	28.76	3.32	35.17	42.85	74.00	-31.15	Peak
2390.000	43.00	28.80	3.33	35.18	39.95	74.00	-34.05	Peak
2402.250	104.30	28.85	3.34	35.19	101.30	74.00	27.30	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low

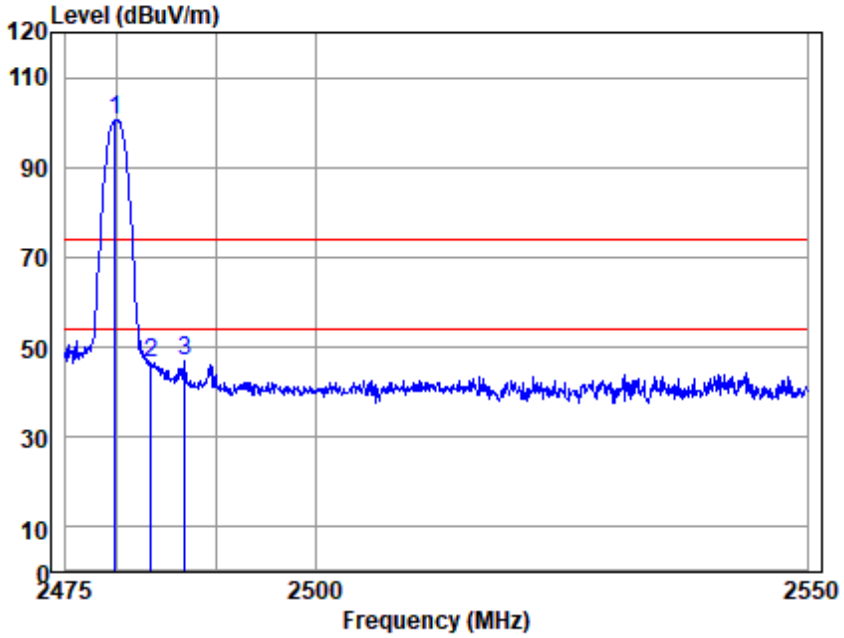


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2376.027	45.78	28.71	3.32	35.17	42.64	74.00	-31.36	Peak
2390.000	42.75	28.80	3.33	35.18	39.70	74.00	-34.30	Peak
2402.047	100.95	28.85	3.34	35.19	97.95	74.00	23.95	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High

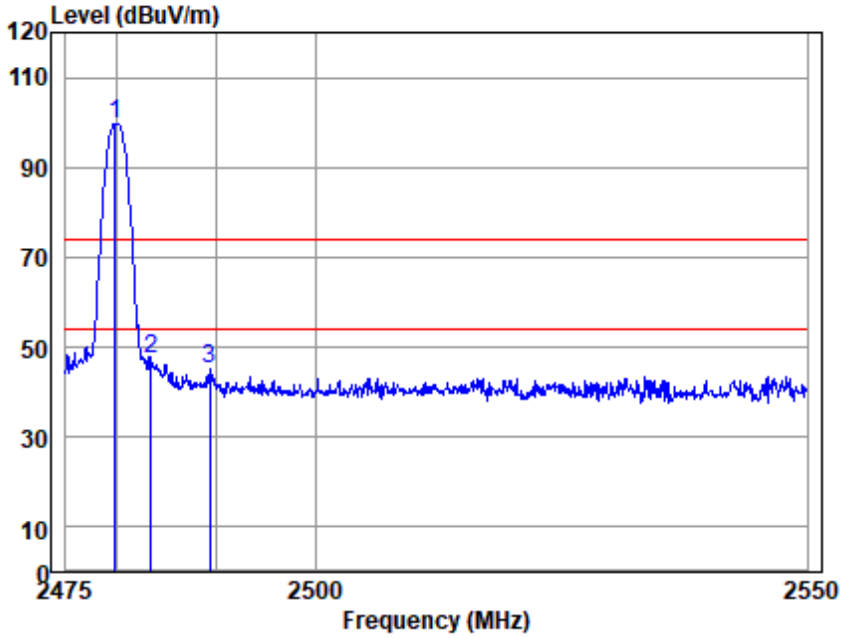


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2479.881	103.22	29.08	3.40	35.25	100.45	74.00	26.45	Peak
2483.500	49.38	29.09	3.41	35.26	46.62	74.00	-27.38	Peak
2486.924	49.52	29.09	3.41	35.26	46.76	74.00	-27.24	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High

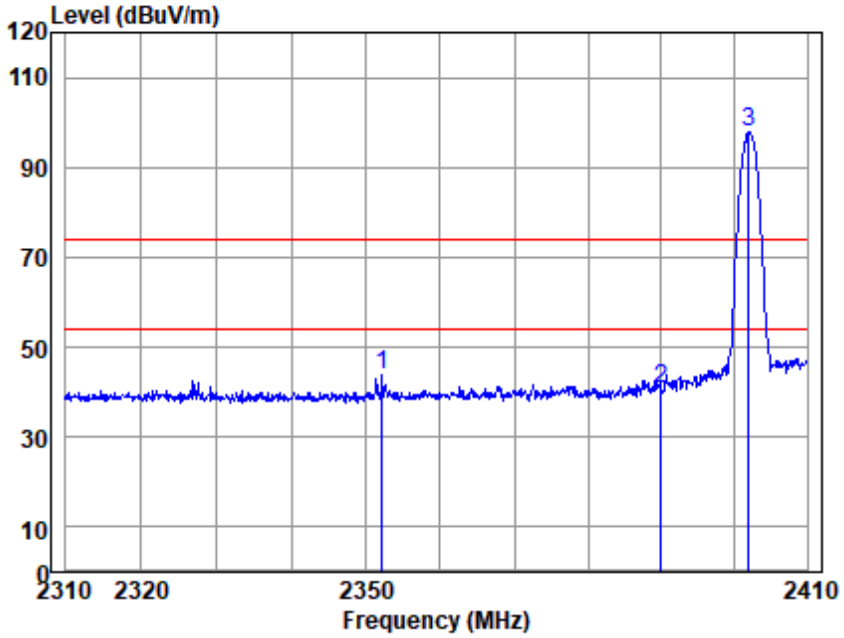


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2479.881	102.43	29.08	3.40	35.25	99.66	74.00	25.66	Peak
2483.500	50.25	29.09	3.41	35.26	47.49	74.00	-26.51	Peak
2489.375	47.79	29.10	3.41	35.26	45.04	74.00	-28.96	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:π/4 DQPSK; Channel:Low

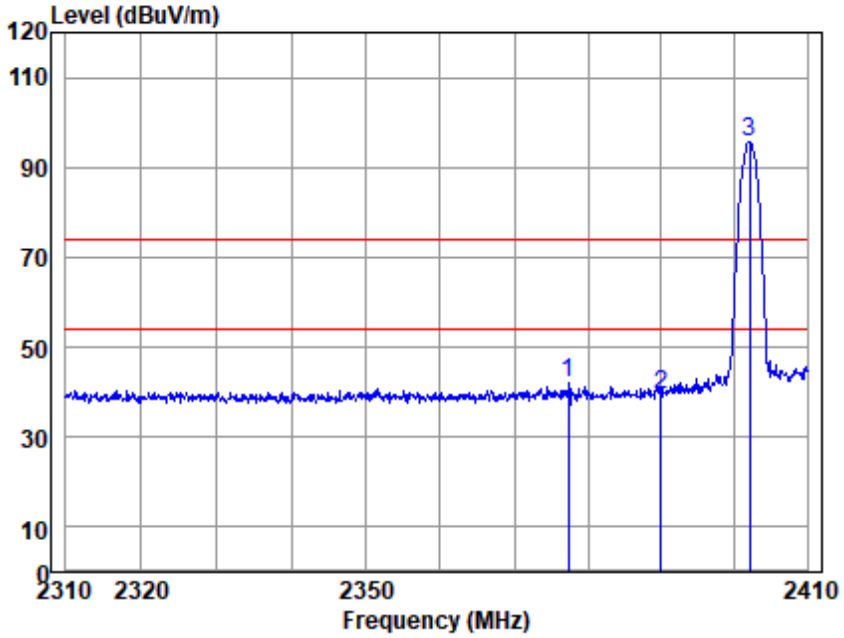


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2352.182	47.08	28.61	3.30	35.15	43.84	74.00	-30.16	Peak
2390.000	43.66	28.80	3.33	35.18	40.61	74.00	-33.39	Peak
2401.945	100.96	28.85	3.34	35.19	97.96	74.00	23.96	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:π/4 DQPSK; Channel:Low

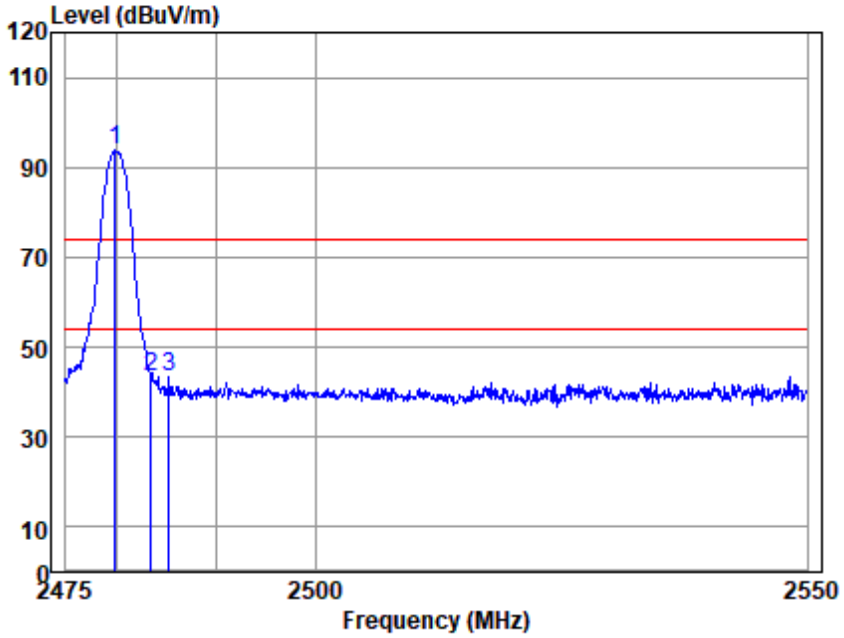


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2377.336	45.00	28.76	3.32	35.17	41.91	74.00	-32.09	Peak
2390.000	42.42	28.80	3.33	35.18	39.37	74.00	-34.63	Peak
2402.148	98.69	28.85	3.34	35.19	95.69	74.00	21.69	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:π/4 DQPSK; Channel:High

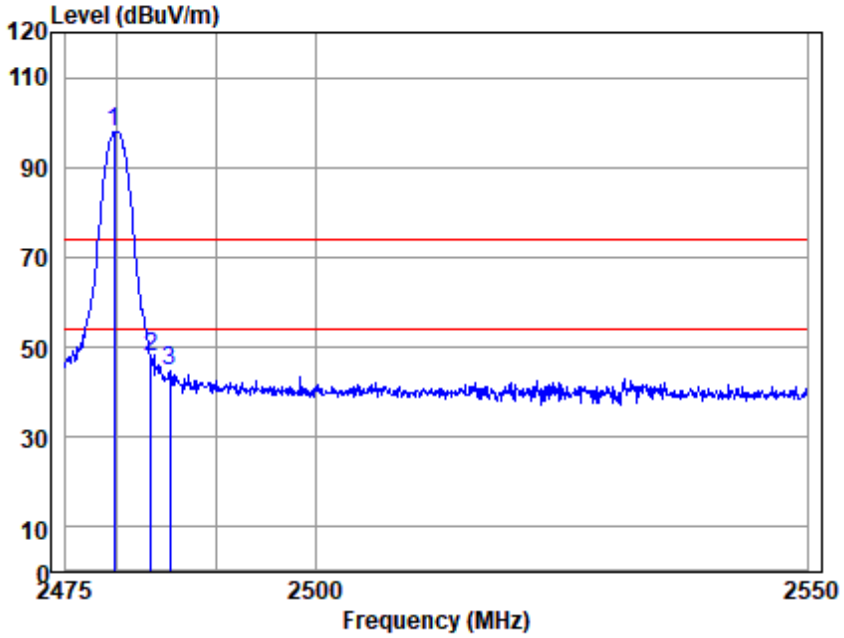


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2479.881	96.49	29.08	3.40	35.25	93.72	74.00	19.72	Peak
2483.500	46.34	29.09	3.41	35.26	43.58	74.00	-30.42	Peak
2485.292	45.96	29.09	3.41	35.26	43.20	74.00	-30.80	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:π/4 DQPSK; Channel:High

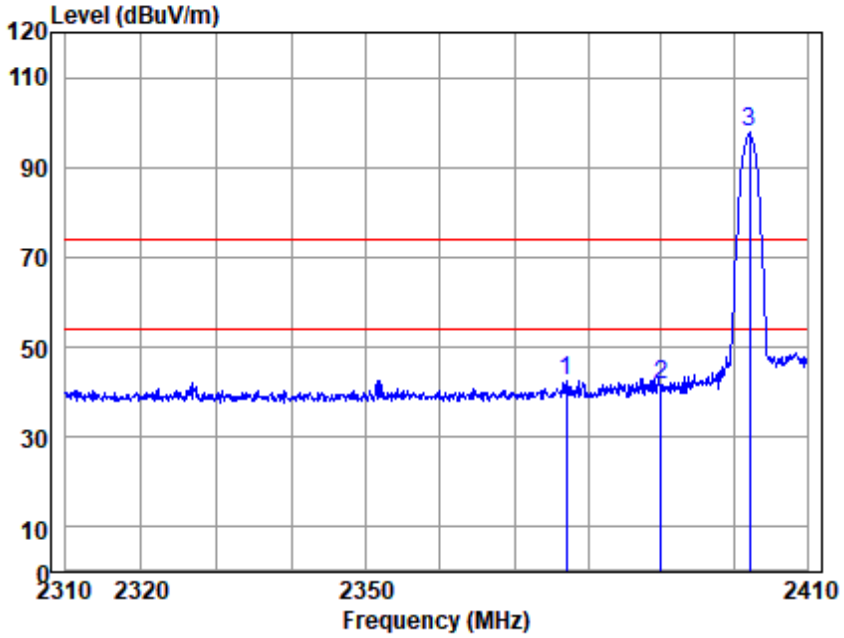


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2479.807	100.69	29.08	3.40	35.25	97.92	74.00	23.92	Peak
2483.500	50.58	29.09	3.41	35.26	47.82	74.00	-26.18	Peak
2485.440	47.48	29.09	3.41	35.26	44.72	74.00	-29.28	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:8DPSK; Channel:Low

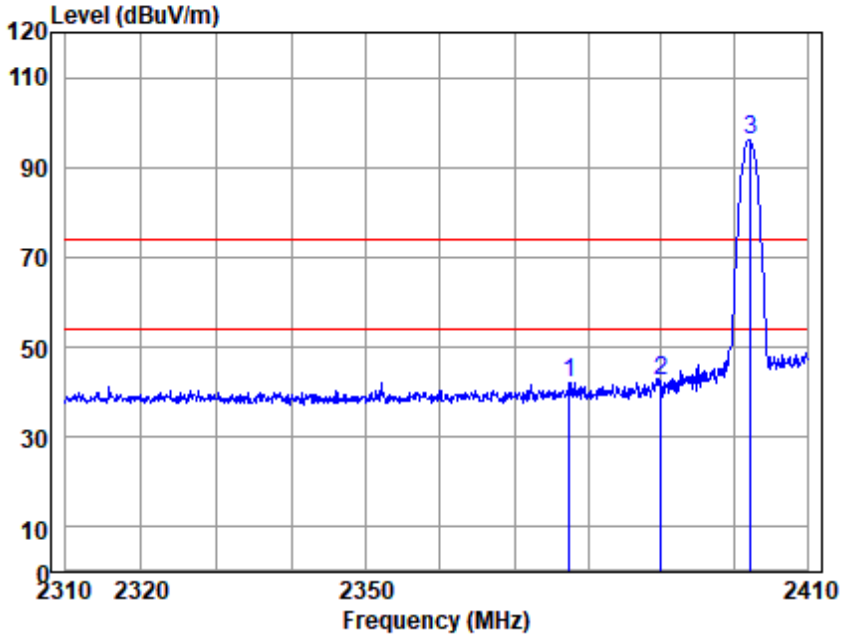


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2377.034	45.70	28.76	3.32	35.17	42.61	74.00	-31.39	Peak
2390.000	44.88	28.80	3.33	35.18	41.83	74.00	-32.17	Peak
2402.047	100.91	28.85	3.34	35.19	97.91	74.00	23.91	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:8DPSK; Channel:Low

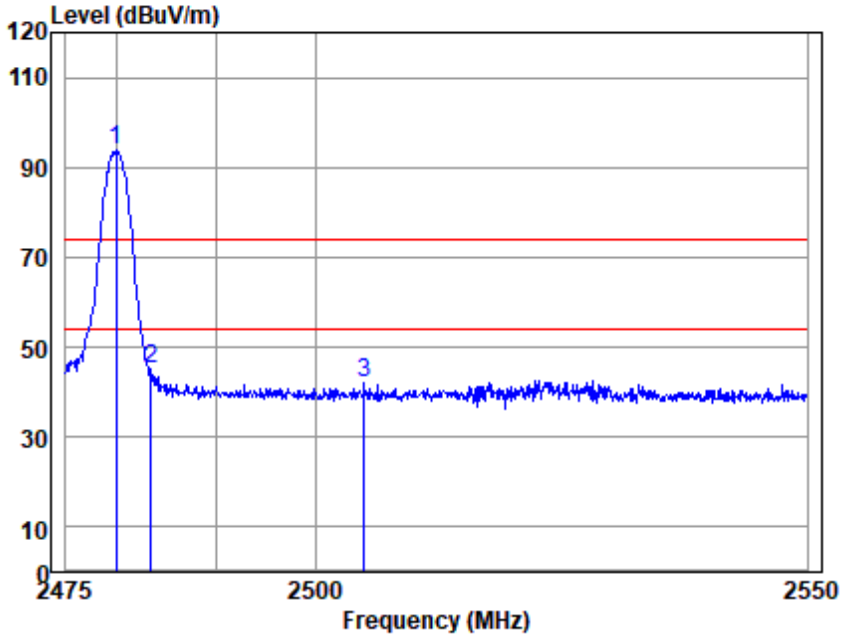


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2377.437	45.21	28.76	3.32	35.17	42.12	74.00	-31.88	Peak
2390.000	45.56	28.80	3.33	35.18	42.51	74.00	-31.49	Peak
2402.250	99.31	28.85	3.34	35.19	96.31	74.00	22.31	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:8DPSK; Channel:High

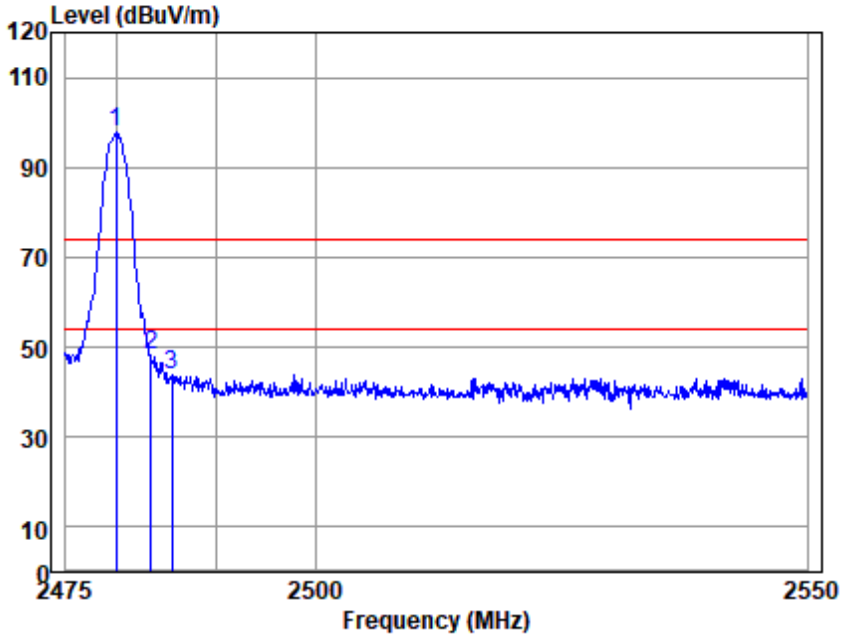


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2480.029	96.53	29.08	3.40	35.25	93.76	74.00	19.76	Peak
2483.500	47.78	29.09	3.41	35.26	45.02	74.00	-28.98	Peak
2504.956	44.75	29.13	3.43	35.28	42.03	74.00	-31.97	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:8DPSK; Channel:High



Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
2480.029	100.59	29.08	3.40	35.25	97.82	74.00	23.82	Peak
2483.500	51.02	29.09	3.41	35.26	48.26	74.00	-25.74	Peak
2485.588	46.72	29.09	3.41	35.26	43.96	74.00	-30.04	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

6.2 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2013) Section 6.4,6.5
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

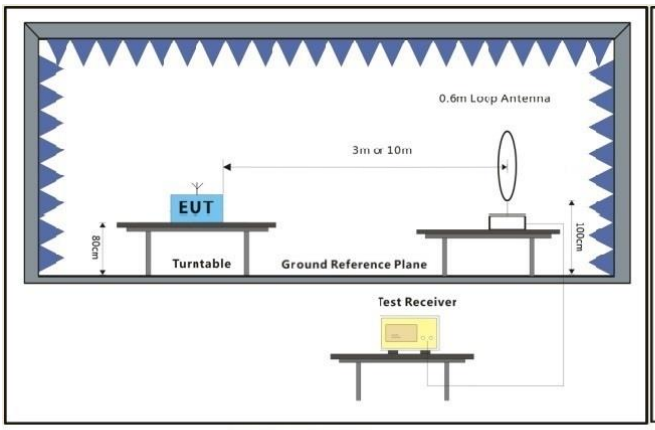
6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

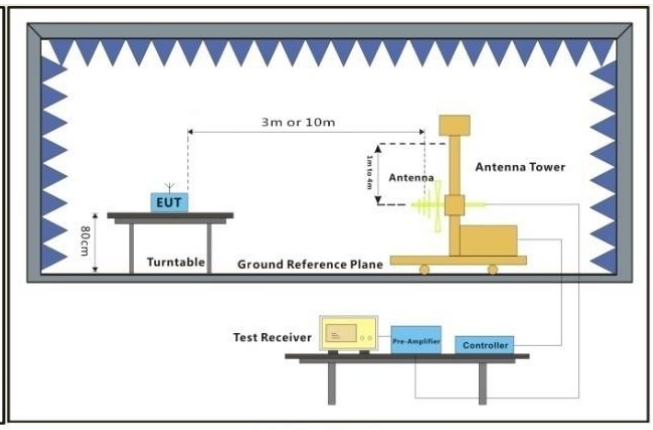
6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

6.2.3 Test Setup Diagram



Below 30MHz



30MHz-1GHz

6.2.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable 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.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

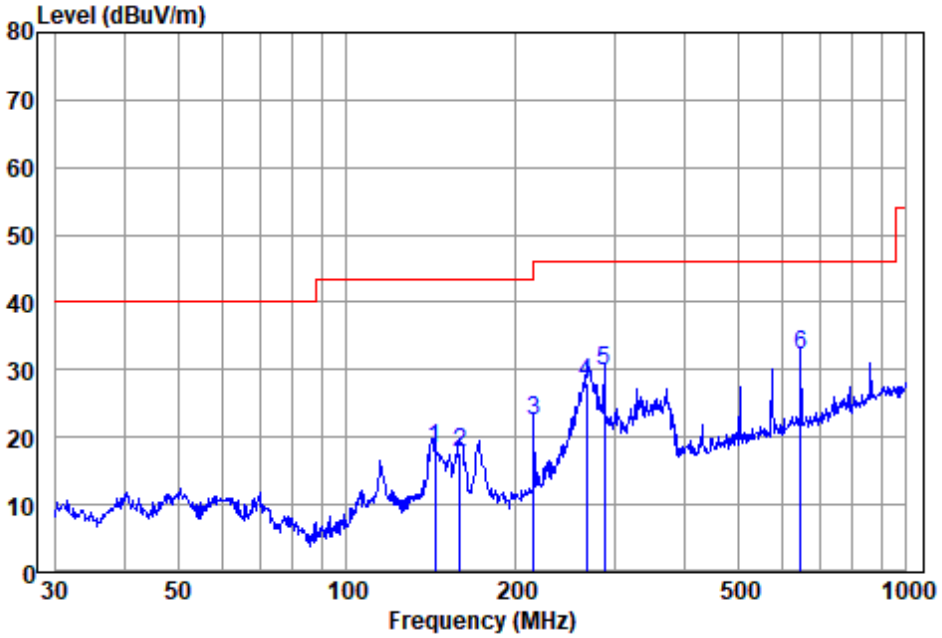
i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

Test Mode: 00; Polarity: Horizontal

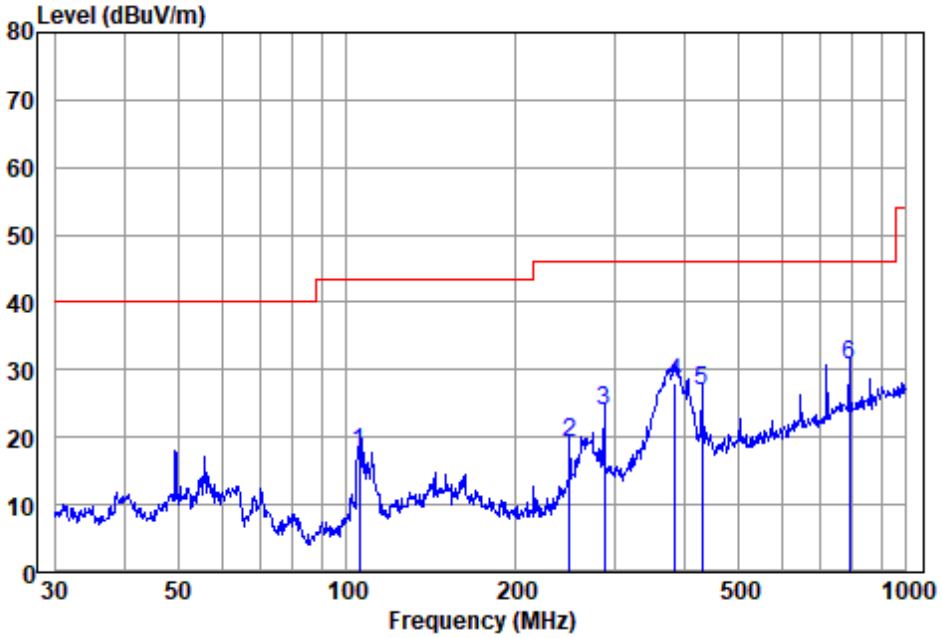


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME
Test mode :00

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	143.830	35.30	13.50	2.55	33.02	18.33	43.50	-25.17	QP
2	159.225	34.33	13.70	2.66	33.00	17.69	43.50	-25.81	QP
3	216.024	42.37	9.86	3.11	32.93	22.41	46.00	-23.59	QP
4	267.546	44.78	12.22	3.78	32.84	27.94	46.00	-18.06	QP
5	287.990	46.05	13.04	3.55	32.88	29.76	46.00	-16.24	QP
6	647.386	38.43	20.65	5.72	32.61	32.19	46.00	-13.81	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical



Antenna Polarity :VERTICAL
EUT/Project :0535ME
Test mode :00

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	105.272	38.71	10.00	2.24	33.17	17.78	43.50	-25.72	QP
2	250.301	37.04	11.70	3.33	32.80	19.27	46.00	-26.73	QP
3	287.990	40.15	13.04	3.55	32.88	23.86	46.00	-22.14	QP
4	386.634	40.95	15.59	4.23	32.78	27.99	46.00	-18.01	QP
5	431.032	38.32	16.74	4.57	32.74	26.89	46.00	-19.11	QP
6	790.619	34.04	22.50	6.41	32.30	30.65	46.00	-15.35	QP

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

6.3 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method: ANSI C63.10 (2013) Section 6.6
Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

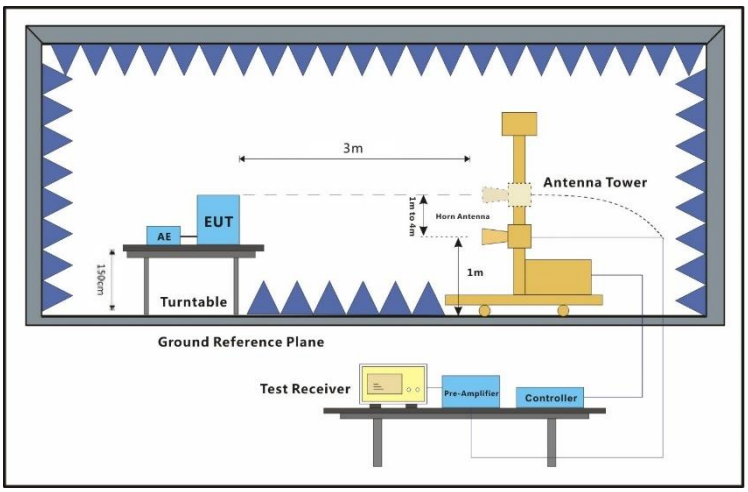
6.3.1 E.U.T. Operation

Operating Environment:
Temperature: 22 °C Humidity: 50 % RH Atmospheric Pressure: 1010 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX_non-Hop mode_Keep the EUT in continuously transmitting mode with GFSK modulation, Pi/4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

6.3.3 Test Setup Diagram



6.3.4 Measurement Procedure and Data

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. 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 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable 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.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak or average method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

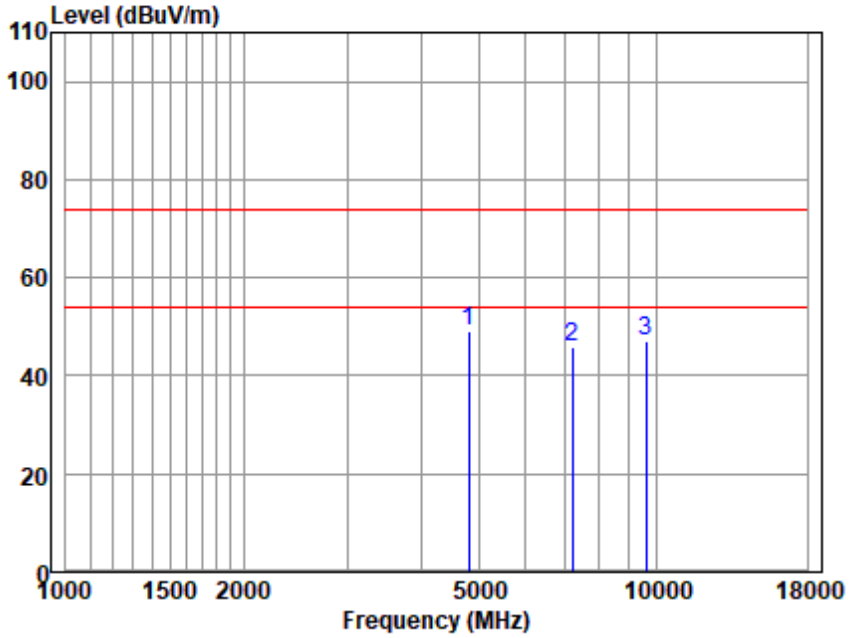
2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

4: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for Peak detection (PK) and Average detection (AV) at frequency above 1GHz.

5:For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geqslant$1/T (Duty cycle$<$98%) or 10Hz (Duty cycle$\geqslant$98%) for Average detection (AV) at frequency above 1GHz.

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low

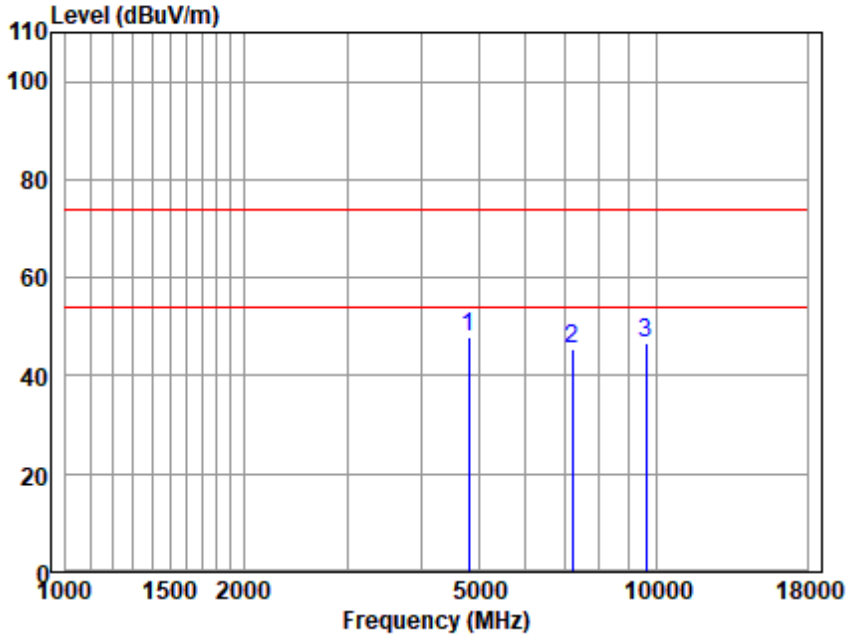


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4804.110	47.02	33.57	5.23	36.79	49.03	74.00	-24.97	Peak
7200.309	37.85	36.24	7.33	35.53	45.89	74.00	-28.11	Peak
9613.430	34.22	37.75	8.74	33.58	47.13	74.00	-26.87	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low

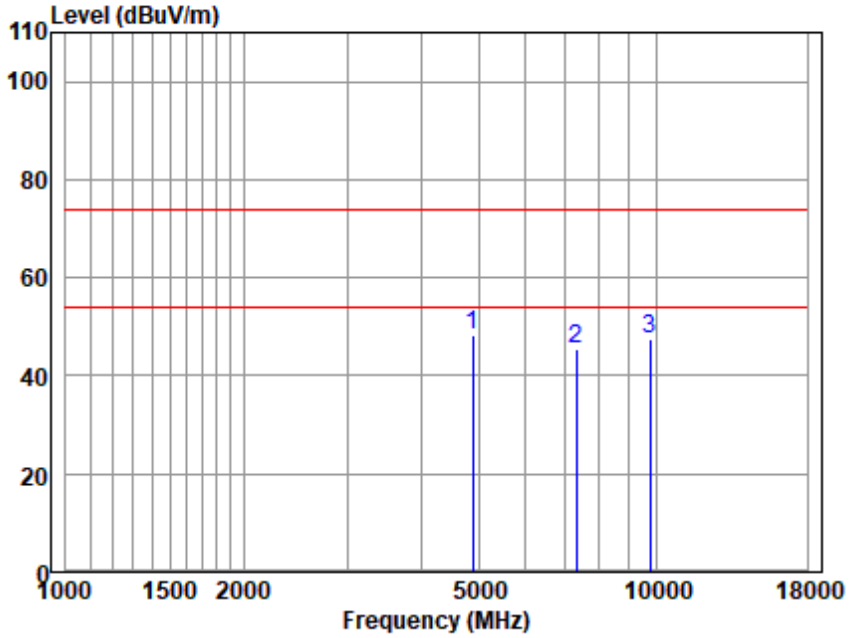


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4804.110	45.79	33.57	5.23	36.79	47.80	74.00	-26.20	Peak
7200.309	37.26	36.24	7.33	35.53	45.30	74.00	-28.70	Peak
9613.430	33.58	37.75	8.74	33.58	46.49	74.00	-27.51	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:middle

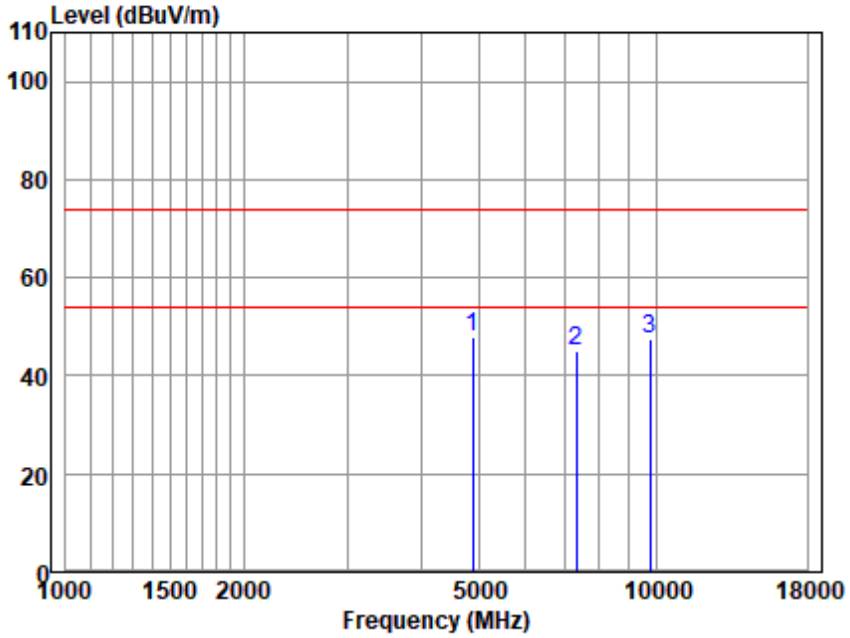


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4882.151	45.97	33.66	5.29	36.81	48.11	74.00	-25.89	Peak
7326.267	36.97	36.33	7.44	35.42	45.32	74.00	-28.68	Peak
9753.371	34.48	37.54	8.80	33.50	47.32	74.00	-26.68	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle

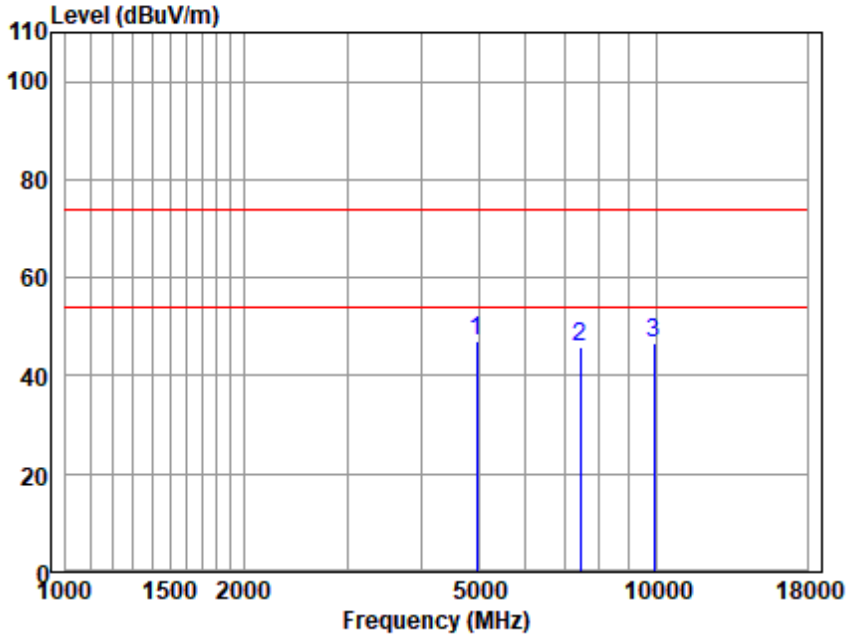


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4882.151	45.93	33.66	5.29	36.81	48.07	74.00	-25.93	Peak
7326.267	36.53	36.33	7.44	35.42	44.88	74.00	-29.12	Peak
9753.371	34.73	37.54	8.80	33.50	47.57	74.00	-26.43	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High

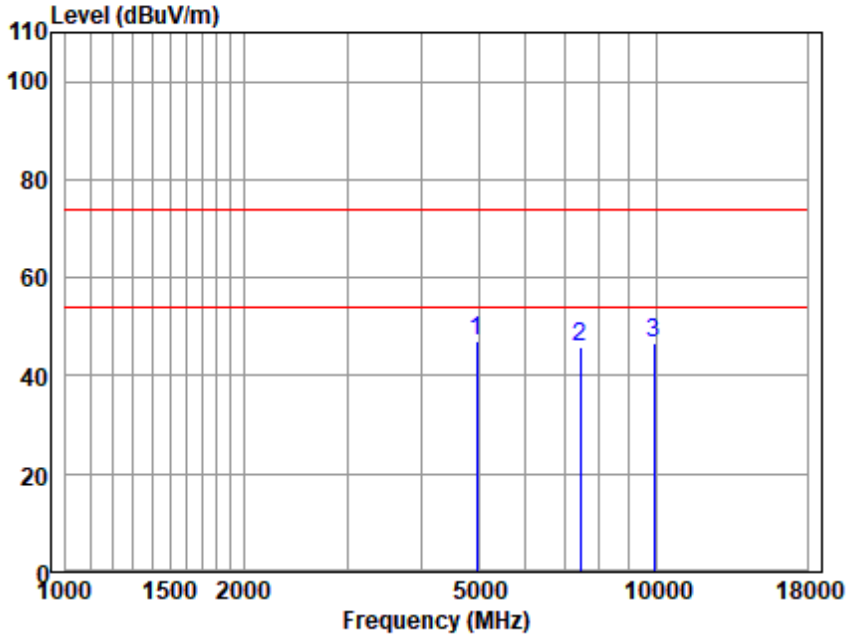


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4960.307	44.98	33.65	5.34	36.83	47.14	74.00	-26.86	Peak
7432.914	37.21	36.31	7.53	35.34	45.71	74.00	-28.29	Peak
9923.991	33.56	37.62	8.88	33.41	46.65	74.00	-27.35	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High

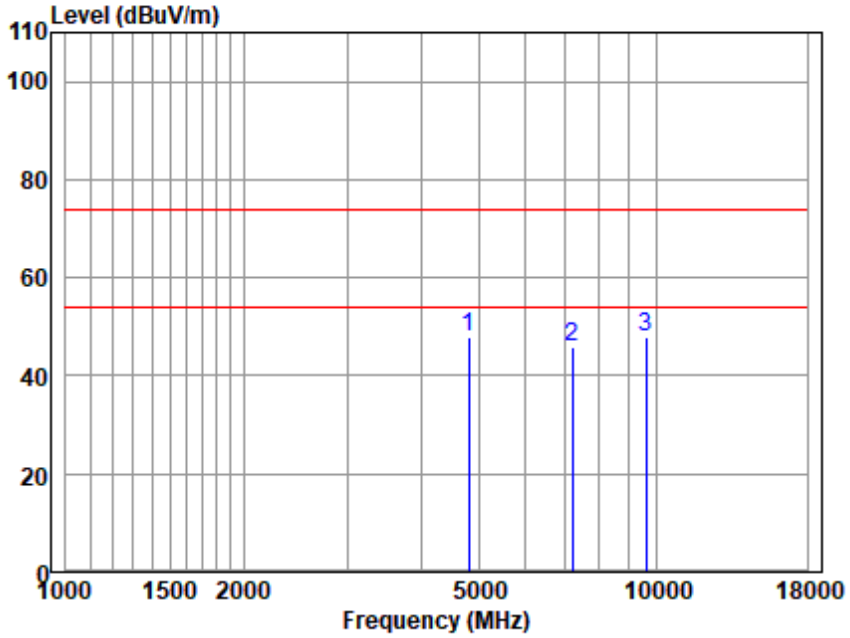


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4960.307	44.93	33.65	5.34	36.83	47.09	74.00	-26.91	Peak
7432.914	37.25	36.31	7.53	35.34	45.75	74.00	-28.25	Peak
9923.991	33.73	37.62	8.88	33.41	46.82	74.00	-27.18	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:π/4 DQPSK; Channel:Low

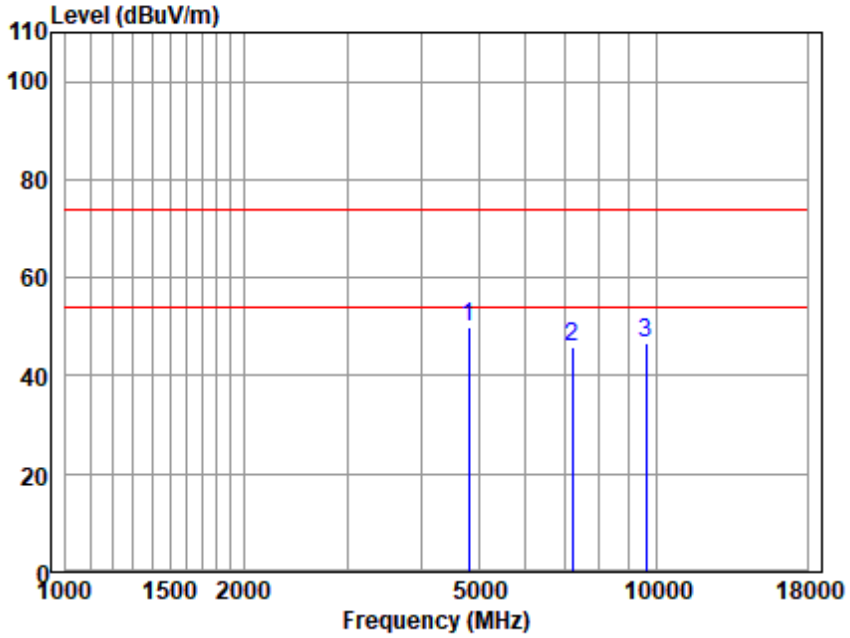


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4804.110	45.77	33.57	5.23	36.79	47.78	74.00	-26.22	Peak
7200.309	37.80	36.24	7.33	35.53	45.84	74.00	-28.16	Peak
9613.430	34.86	37.75	8.74	33.58	47.77	74.00	-26.23	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:π/4 DQPSK; Channel:Low

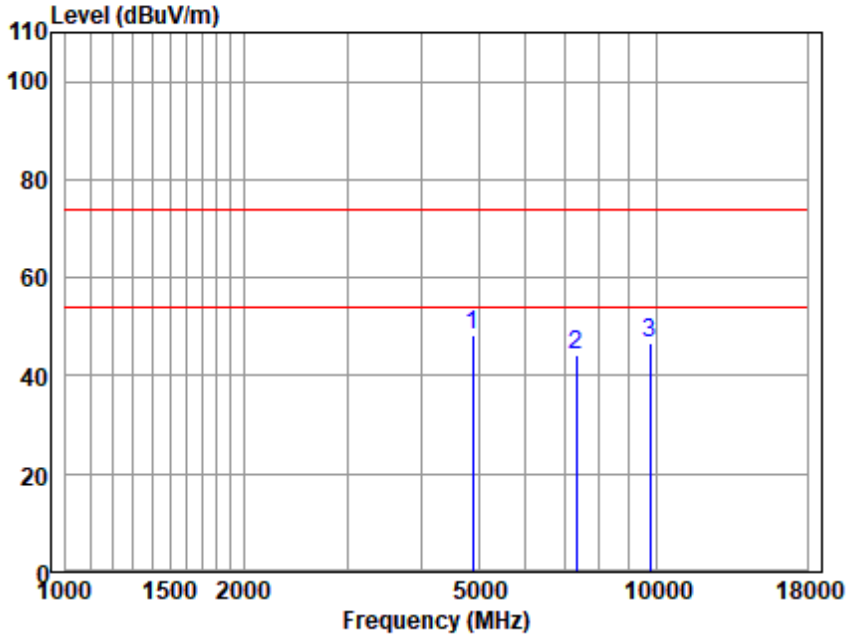


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4804.110	47.75	33.57	5.23	36.79	49.76	74.00	-24.24	Peak
7200.309	37.66	36.24	7.33	35.53	45.70	74.00	-28.30	Peak
9613.430	33.77	37.75	8.74	33.58	46.68	74.00	-27.32	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:π/4 DQPSK; Channel:middle

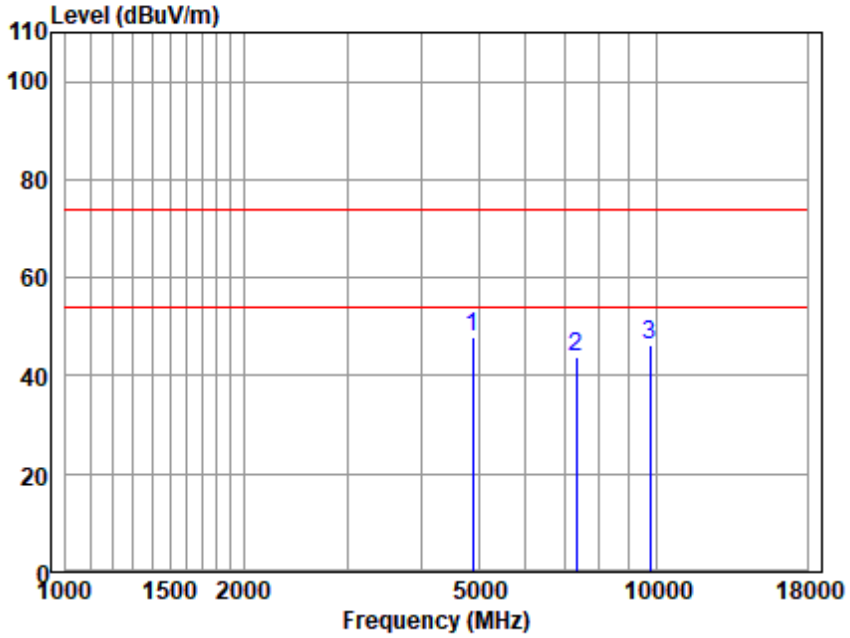


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4882.151	46.12	33.66	5.29	36.81	48.26	74.00	-25.74	Peak
7326.267	35.73	36.33	7.44	35.42	44.08	74.00	-29.92	Peak
9753.371	33.89	37.54	8.80	33.50	46.73	74.00	-27.27	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:π/4 DQPSK; Channel:middle

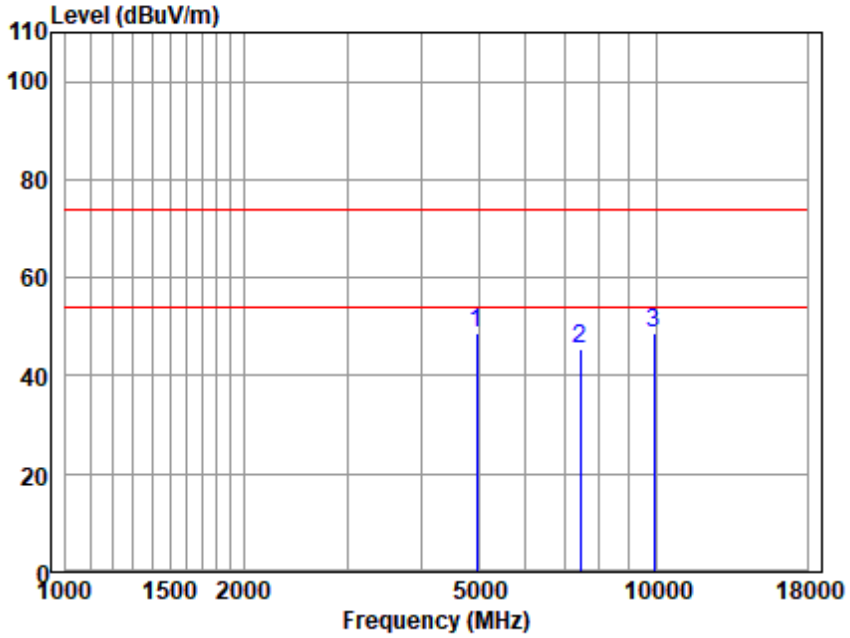


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4882.151	45.66	33.66	5.29	36.81	47.80	74.00	-26.20	Peak
7326.267	35.67	36.33	7.44	35.42	44.02	74.00	-29.98	Peak
9753.371	33.23	37.54	8.80	33.50	46.07	74.00	-27.93	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:π/4 DQPSK; Channel:High

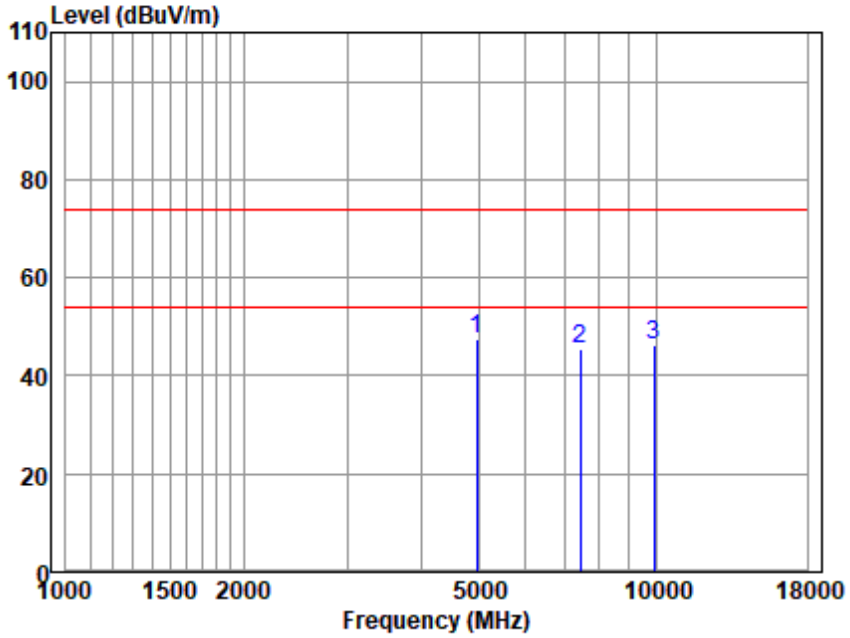


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4960.307	46.57	33.65	5.34	36.83	48.73	74.00	-25.27	Peak
7432.914	37.05	36.31	7.53	35.34	45.55	74.00	-28.45	Peak
9923.991	35.53	37.62	8.88	33.41	48.62	74.00	-25.38	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:π/4 DQPSK; Channel:High

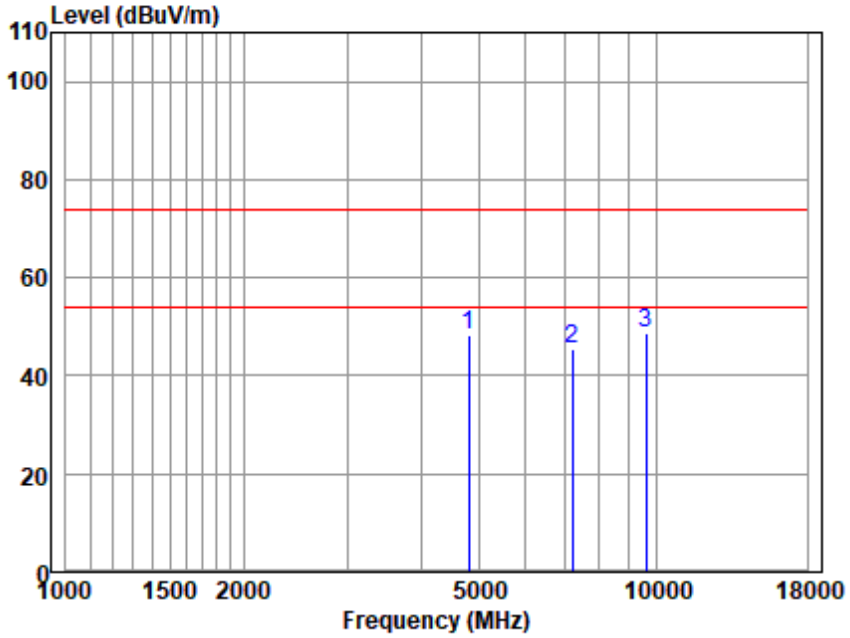


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4960.307	45.46	33.65	5.34	36.83	47.62	74.00	-26.38	Peak
7432.914	36.99	36.31	7.53	35.34	45.49	74.00	-28.51	Peak
9923.991	33.36	37.62	8.88	33.41	46.45	74.00	-27.55	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:8DPSK; Channel:Low

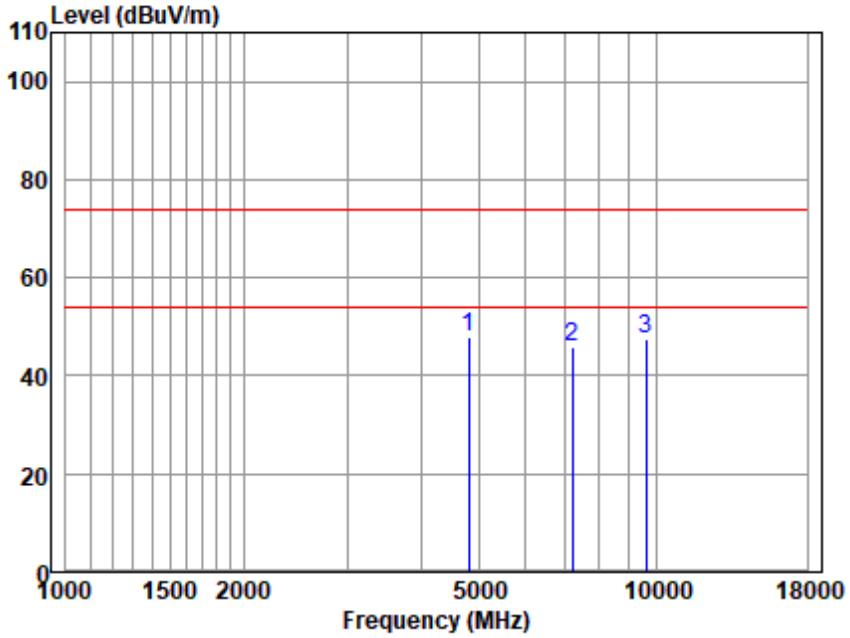


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4804.110	46.46	33.57	5.23	36.79	48.47	74.00	-25.53	Peak
7200.309	37.49	36.24	7.33	35.53	45.53	74.00	-28.47	Peak
9613.430	35.94	37.75	8.74	33.58	48.85	74.00	-25.15	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:8DPSK; Channel:Low

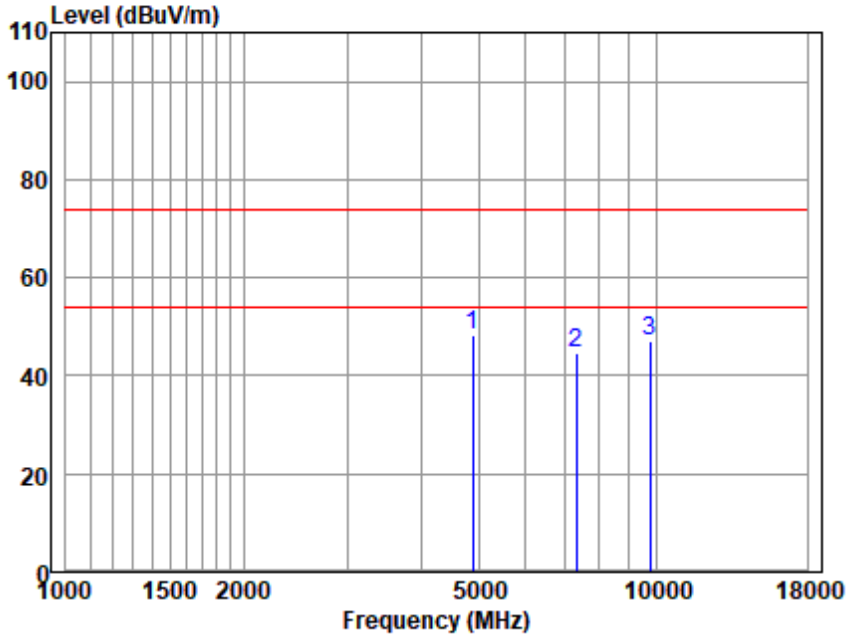


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4804.110	46.03	33.57	5.23	36.79	48.04	74.00	-25.96	Peak
7200.309	37.76	36.24	7.33	35.53	45.80	74.00	-28.20	Peak
9613.430	34.53	37.75	8.74	33.58	47.44	74.00	-26.56	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:8DPSK; Channel:middle

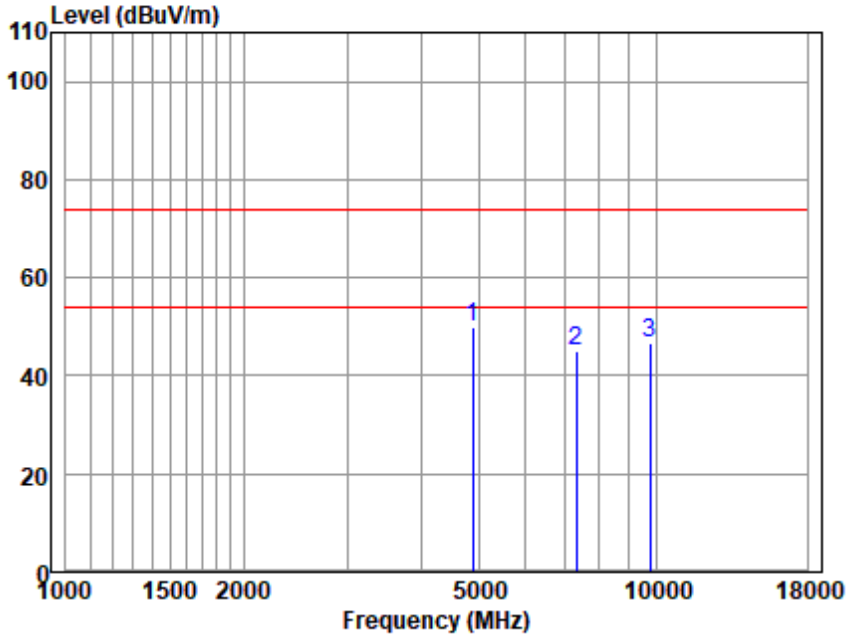


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4882.151	45.96	33.66	5.29	36.81	48.10	74.00	-25.90	Peak
7326.267	36.15	36.33	7.44	35.42	44.50	74.00	-29.50	Peak
9753.371	34.28	37.54	8.80	33.50	47.12	74.00	-26.88	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:8DPSK; Channel:middle

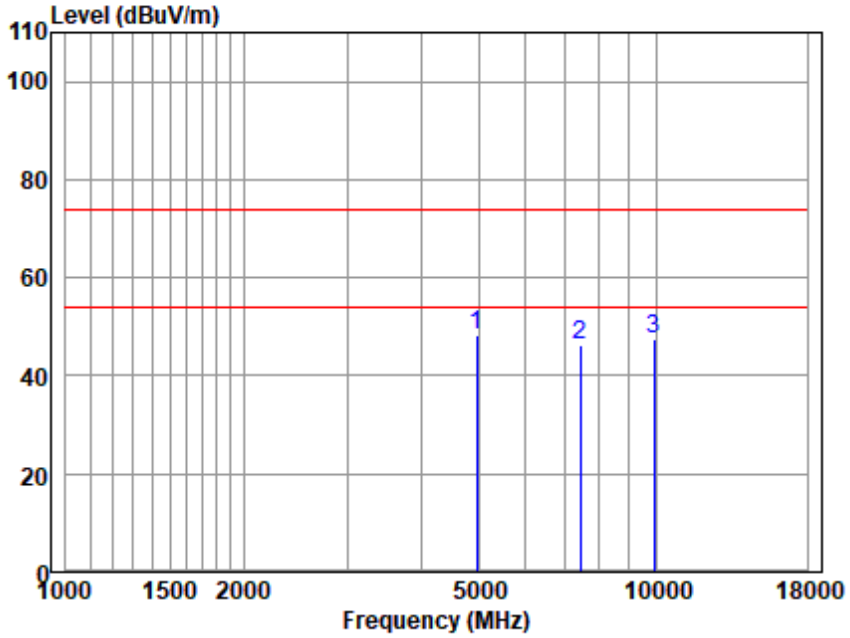


Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4882.151	47.75	33.66	5.29	36.81	49.89	74.00	-24.11	Peak
7326.267	36.61	36.33	7.44	35.42	44.96	74.00	-29.04	Peak
9753.371	34.01	37.54	8.80	33.50	46.85	74.00	-27.15	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Horizontal; Modulation:8DPSK; Channel:High

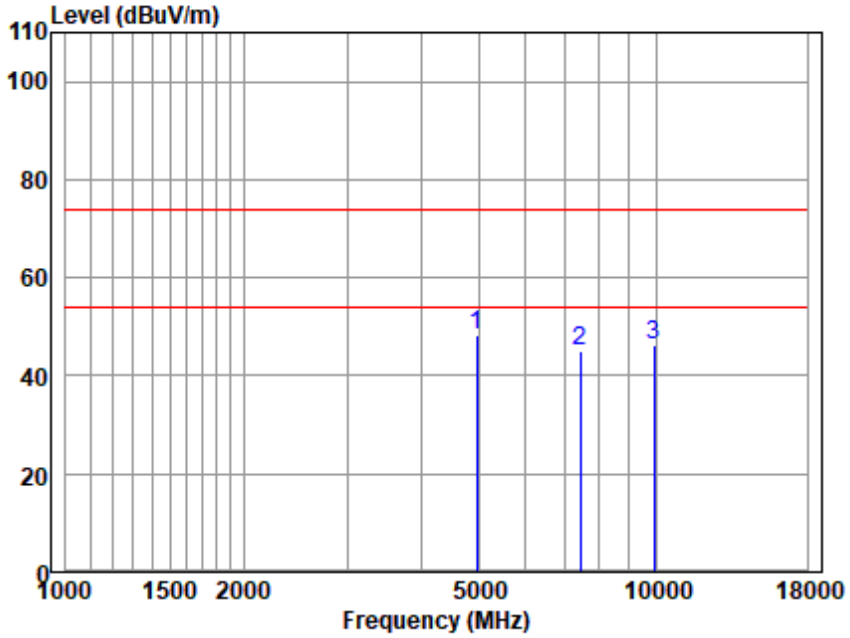


Antenna Polarity :HORIZONTAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4960.307	46.11	33.65	5.34	36.83	48.27	74.00	-25.73	Peak
7432.914	37.93	36.31	7.53	35.34	46.43	74.00	-27.57	Peak
9923.991	34.49	37.62	8.88	33.41	47.58	74.00	-26.42	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Test Mode: 00; Polarity: Vertical; Modulation:8DPSK; Channel:High



Antenna Polarity :VERTICAL
EUT/Project :0535ME

Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
4960.307	46.18	33.65	5.34	36.83	48.34	74.00	-25.66	Peak
7432.914	36.43	36.31	7.53	35.34	44.93	74.00	-29.07	Peak
9923.991	33.07	37.62	8.88	33.41	46.16	74.00	-27.84	Peak

Note:Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

7 Test Setup Photo

Refer to Appendix - Test Setup Photo for SHCR2503000535ME

8 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for SHCR2503000535ME

- End of the Report -