

RADIO TEST REPORT

FCC ID:UVIBS31A

Product: Bridgemate III server
Trade Mark: Bridgemate
Model No.: BS3-1A
Family Model: N/A
Report No.: S24053003105002

Prepared for

Bridge Systems B.V.
Nijverheidsstraat 118, Rijswijk, 2288 BB, Netherlands

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : Bridge Systems B.V.
Address : Nijverheidsstraat 118, Rijswijk, 2288 BB, Netherlands
Manufacturer's Name : Mecca Electronics Co. Ltd.
Address : Gangyang Industrial Area, Zhangmutou Town, Dongguan, China

Product description

Product name : Bridgemate III server
Model and/or type reference : BS3-1A
Family Model : N/A
Test Sample Number..... : S240530031002

Standards : FCC Part15.249

Test procedure ANSI C63.10-2013

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test :

Date (s) of performance of tests : May 31, 2024 ~ Aug. 30, 2024

Date of Issue..... : Aug. 30, 2024

Test Result..... : **Pass**

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(Manager)

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Revision History

Report No.	Version	Description	Issued Date
S24053003105002	Rev.01	Initial issue of report	Aug. 30, 2024

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.249)			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
15.203	Antenna Requirement	Pass	
15.249 15.209	Radiated Spurious Emission	Pass	
15.249(2)	Frequency Tolerance	Pass	
15.249(a)	Fundamental Measurement	Pass	
15.205	Band Edge Emission	Pass	
15.215	Occupied Bandwidth	Pass	

1.1 TEST FACILITY

Shenzhen NTEK Testing Technology Co., Ltd
 Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China.
 FCC FRN Registration No.:463705; IC Registration No.:9270A-1
 CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Feature and Specification	
Equipment	Bridgemate III server
Trade Mark	Bridgemate
FCC ID	UVIBS31A
Model No.	BS3-1A
Family Model	N/A
Model Difference	N/A
Operating Frequency	908.7-921.3MHz
Modulation	GFSK
Number of Channels	64 Channels
Antenna Type	Antenna 1: External antenna Antenna 2: External antenna
Antenna Gain	Antenna 1: 2 dBi Antenna 2: 2 dBi
Battery	DC 3.6V, 11600mAh, 41.76 Wh
Power supply	DC 5V from USB port or DC 3.6V from battery
HW Version	4.13
FW version	50244
SW Version	647

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. Channel list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
160	908.7	182	913.1	204	917.5
161	908.9	183	913.3	205	917.7
162	909.1	184	913.5	206	917.9
163	909.3	185	913.7	207	918.1
164	909.5	186	913.9	208	918.3
165	909.7	187	914.1	209	918.5
166	909.9	188	914.3	210	918.7
167	910.1	189	914.5	211	918.9
168	910.3	190	914.7	212	919.1
169	910.5	191	914.9	213	919.3
170	910.7	192	915.1	214	919.5
171	910.9	193	915.3	215	919.7
172	911.1	194	915.5	216	919.9
173	911.3	195	915.7	217	920.1
174	911.5	196	915.9	218	920.3
175	911.7	197	916.1	219	920.5
176	911.9	198	916.3	220	920.7
177	912.1	199	916.5	221	920.9
178	912.3	200	916.7	222	921.1
179	912.5	201	916.9	223	921.3
180	912.7	202	917.1		
181	912.9	203	917.3		

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	CH160(908.7MHz)
Mode 2	CH192(915.1MHz)
Mode 3	CH223(921.3MHz)

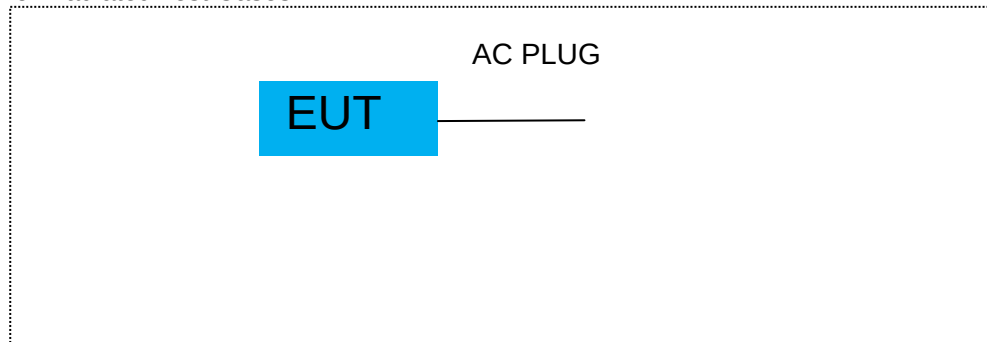
For AC Conducted Emission	
Pretest Mode	Description
Mode 1	CH160(908.7MHz)
Mode 2	CH192(915.1MHz)
Mode 3	CH223(921.3MHz)

For Radiated Spurious Emission	
Pretest Mode	Description
Mode 1	CH160(908.7MHz)
Mode 2	CH192(915.1MHz)
Mode 3	CH223(921.3MHz)

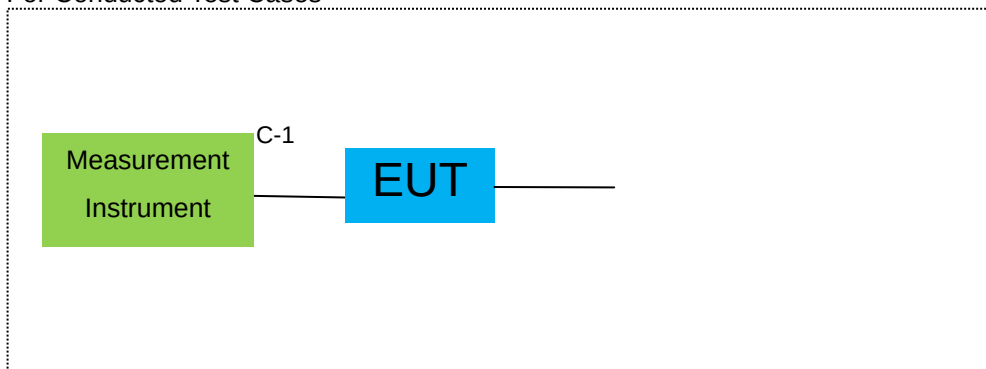
For Conducted Emission	
Final Test Mode	Description
Mode 1	CH160(908.7MHz)
Mode 2	CH192(915.1MHz)
Mode 3	CH223(921.3MHz)

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

For Radiated Test Cases



For Conducted Test Cases



2.4 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
EUT	Bridgemate III server	BS3-1A	N/A	

Item	Cable Type	Shielded Type	Ferrite Core	Length	Note
C-1	RF Cable	NO	NO	0.1m	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4440A	MY41000130	2024.03.12	2025.03.11	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2024.04.26	2025.04.25	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2024.04.26	2025.04.25	1 year
4	Test Receiver	R&S	ESPI7	101318	2024.03.12	2025.03.11	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2024.03.11	2025.03.10	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2023.05.06	2026.05.05	3 year
7	Horn Antenna	SCHWARZBECK	BBHA 9120D	2816	2023.01.12	2026.01.11	3 year
8	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	803	2022.11.07	2025.11.06	3 year
9	Amplifier	EMC	EMC051835SE	980246	2024.01.23	2025.01.22	1 year
10	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	055	2023.11.03	2026.11.02	3 year
11	Power Meter	DARE	RPR3006W	15I00041SN084	2024.04.25	2025.04.24	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
14	High Test Cable(1G-40GHz)	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
15	Filter	TRILTHIC	2400MHz	29	2023.03.26	2026.03.25	3 year
16	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test
And this temporary antenna connector is listed within the instrument list

AC Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2024.03.12	2025.03.11	1 year
2	LISN	R&S	ENV216	101313	2024.03.12	2025.03.11	1 year
3	LISN	SCHWARZBECK	NNLK 8129	8129245	2024.03.12	2025.03.11	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2023.05.06	2026.05.05	3 year
5	Test Cable (9KHz-30MHz)	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
6	Test Cable (9KHz-30MHz)	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
7	Test Cable (9KHz-30MHz)	N/A	C03	N/A	2023.05.06	2026.05.05	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.

3. ANTENNA REQUIREMENT

3.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

3.2 EUT ANTENNA

The EUT antenna is permanent attached . It comply with the standard requirement.

3.3 CONDUCTED EMISSION MEASUREMENT

3.3.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Conducted Emission Limit		Standard
	Quasi-peak	Average	
0.15 -0.5	66 - 56 *	56 - 46 *	part 15.207
0.50 -5.0	56.00	46.00	part 15.207
5.0 -30.0	60.00	50.00	part 15.207

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

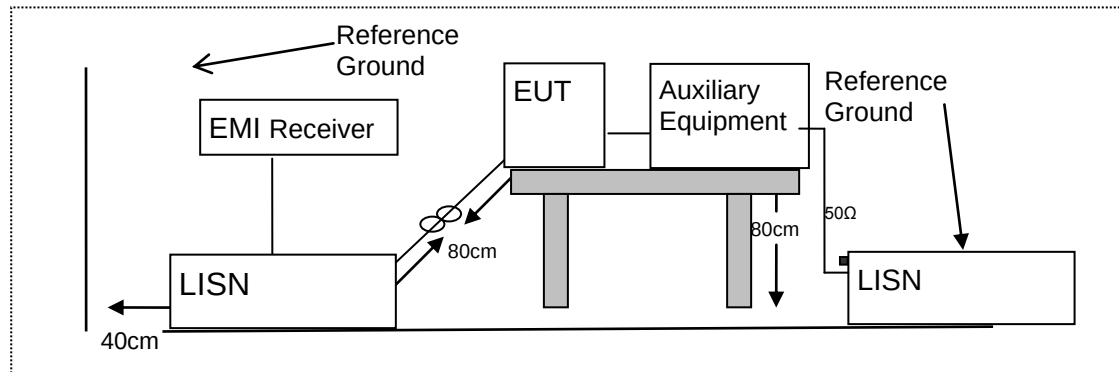
3.3.2 TEST PROCEDURE

- The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 TEST SETUP



3.3.5 TEST RESULT

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	22 °C	Relative Humidity :	57%
Pressure :	1010hPa	Phase :	N/A
Test Voltage :	N/A	Test Mode :	N/A

Not applicable, The product is only used in connection with a computer.

3.4 RADIATED EMISSION MEASUREMENT

3.4.1 Radiated Emission Limits (FCC 15.209)

Frequencies (MHz)	Field Strength (micorvolts/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
Frequency (MHz)	Limit (dBuV)	
30~88	40	3
88~216	43.5	3
216~960	46	3
960 -10000	54.00	3
*902 - 928	94.00	3

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).
- (3) *Note: This is the limit for the fundamental frequency.

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.249)

Frequency of Emission (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
902-928	50	500

Notes:

- (1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.4.2 TEST PROCEDURE

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

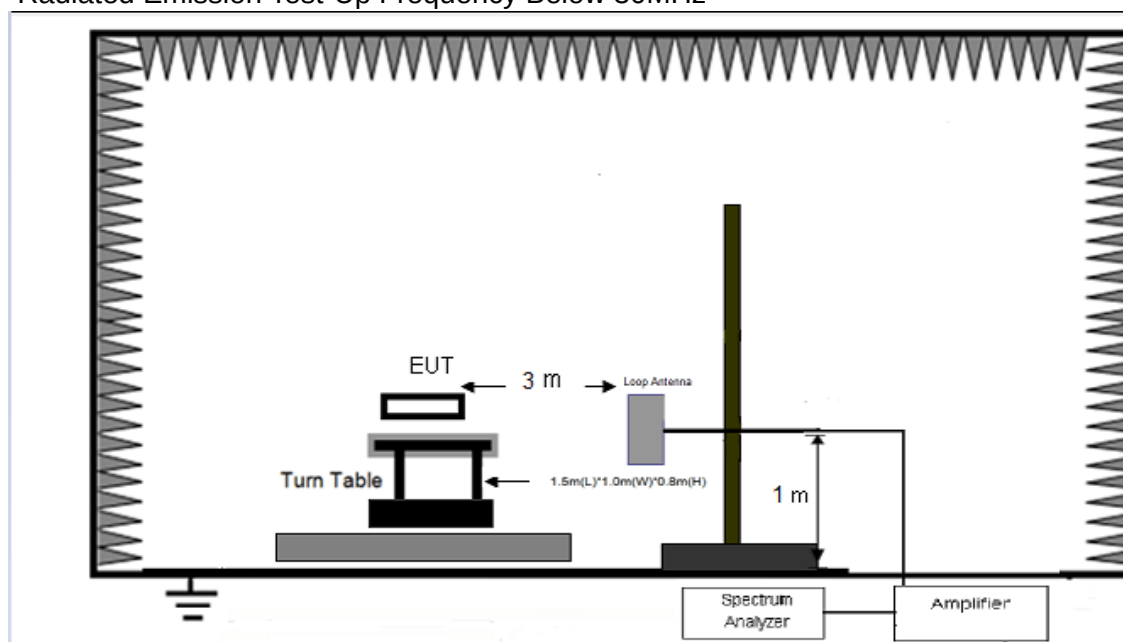
Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

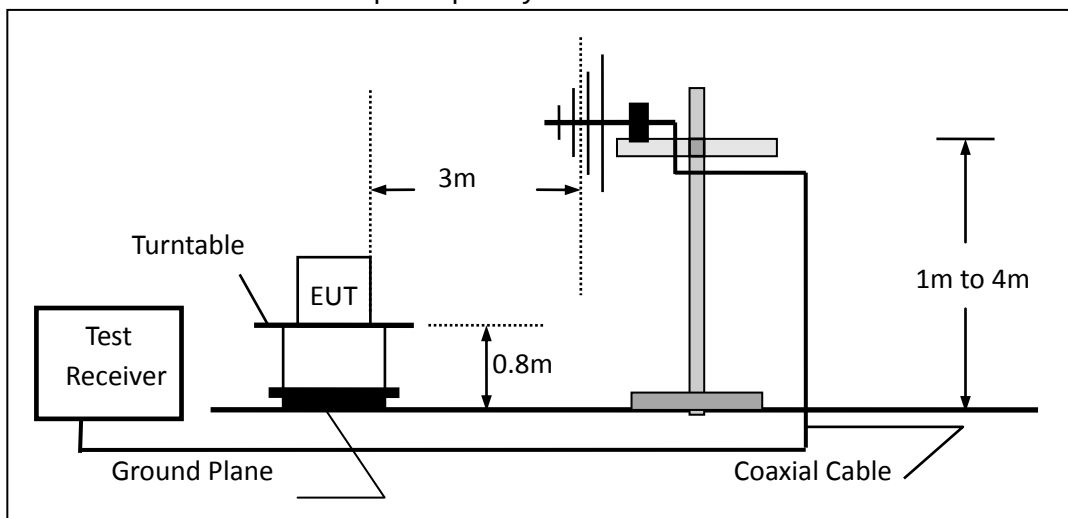
3.4.3 DEVIATION FROM TEST STANDARD

No deviation

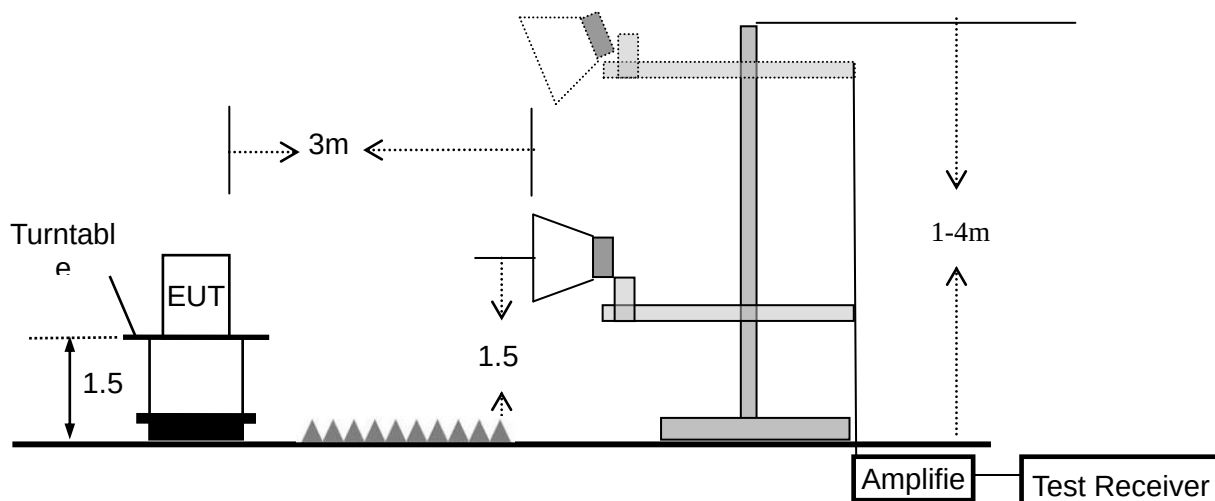
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.4.4 TEST RESULTS (BELOW 30MHZ)

EUT :	Bridgemate III server	Model Name. :	BS3-1A
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

Note:

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

Remark :1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. For Frequency 9kHz~30MHz:

Distance extrapolation factor = $40\log(\text{Specific distance/ test distance})$ (dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz:

Distance extrapolation factor = $20\log(\text{Specific distance/ test distance})$ (dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

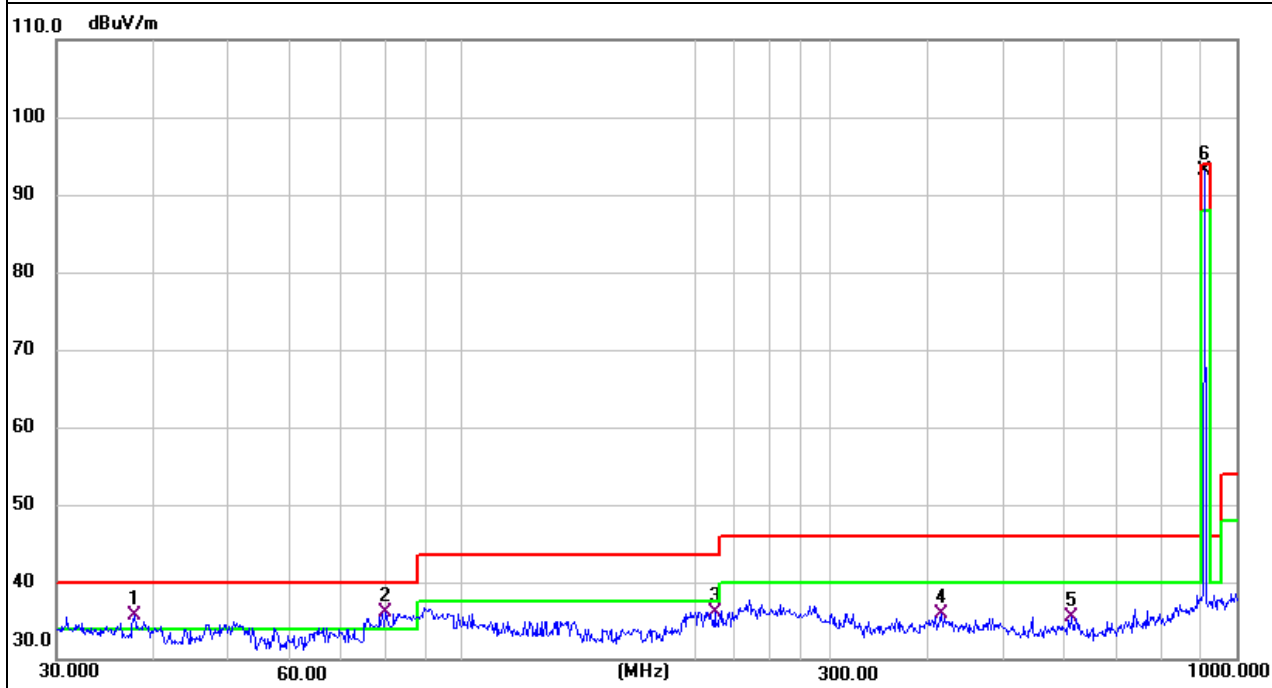
3.4.5 TEST RESULTS (BELOW 1000 MHZ)

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant1	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
37.8121	17.64	18.06	35.70	40.00	-4.30	QP
79.8002	22.21	13.80	36.01	40.00	-3.99	QP
212.2694	17.90	18.24	36.14	43.50	-7.36	QP
416.1791	12.59	23.23	35.82	46.00	-10.18	QP
612.0641	9.04	26.47	35.51	46.00	-10.49	QP
908.7000	62.01	31.02	93.03	114.00	-20.97	Peak
908.7000	-	-	76.78	94.00	-17.22	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

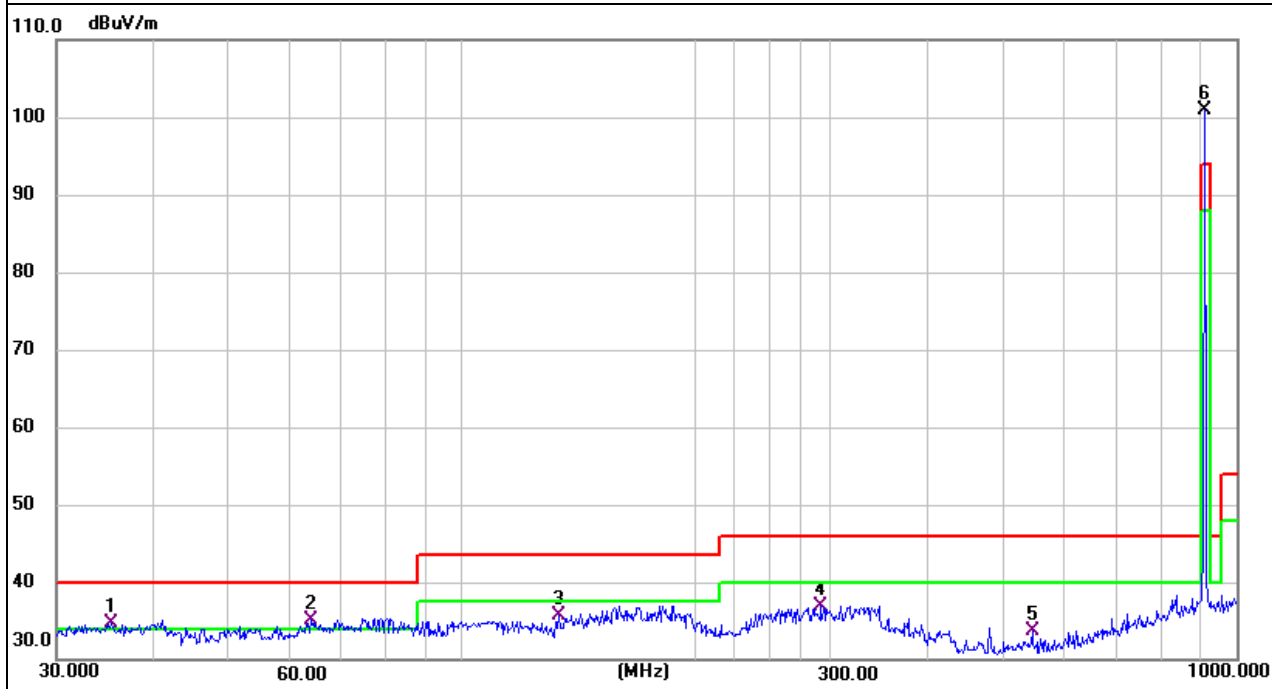
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant1	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
35.3750	17.23	17.42	34.65	40.00	-5.35	QP
63.9827	16.99	18.17	35.16	40.00	-4.84	QP
133.6188	20.90	14.70	35.60	43.50	-7.90	QP
291.0360	16.60	20.24	36.84	46.00	-9.16	QP
545.1825	8.29	25.46	33.75	46.00	-12.25	QP
908.7000	69.96	31.02	100.98	114.00	-13.02	Peak
908.7000	-	-	84.73	94.00	-9.27	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

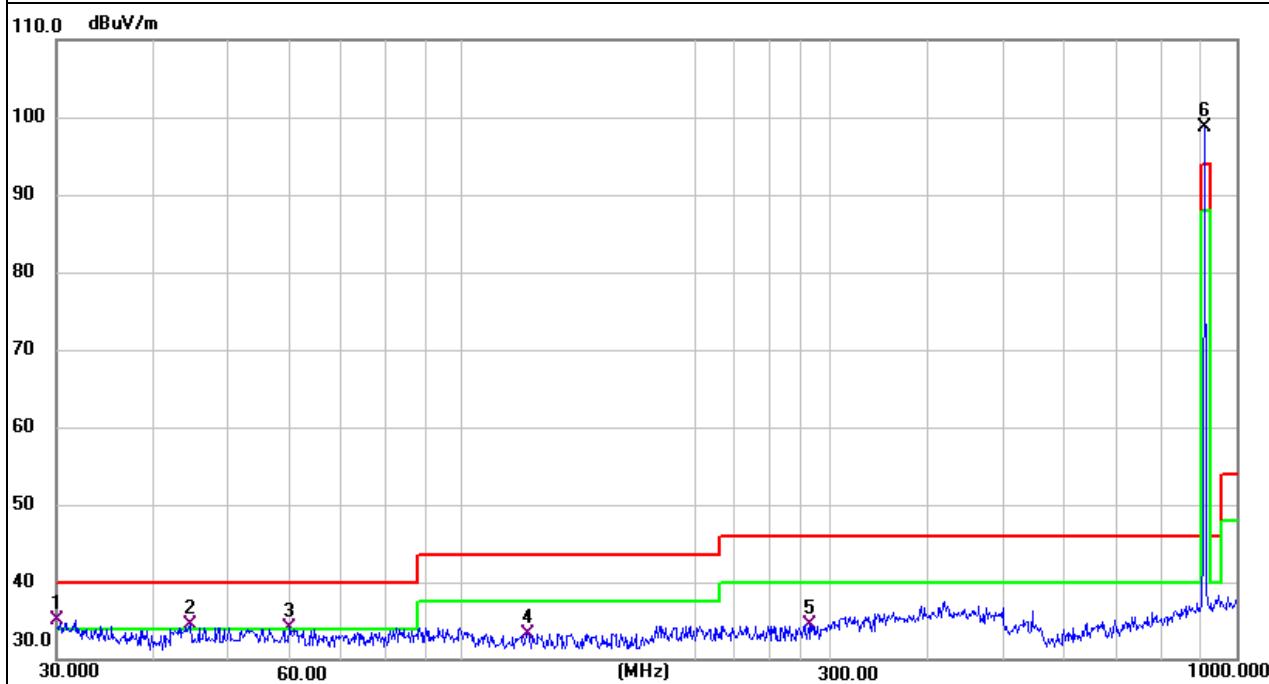
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant2	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
30.0000	18.31	16.88	35.19	40.00	-4.81	QP
44.7433	15.03	19.45	34.48	40.00	-5.52	QP
59.8588	15.34	18.85	34.19	40.00	-5.81	QP
121.5485	17.61	15.78	33.39	43.50	-10.11	QP
281.0074	14.47	20.02	34.49	46.00	-11.51	QP
908.7000	67.61	31.02	98.63	114.00	-15.37	Peak
908.7000	-	-	82.38	94.00	-11.62	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

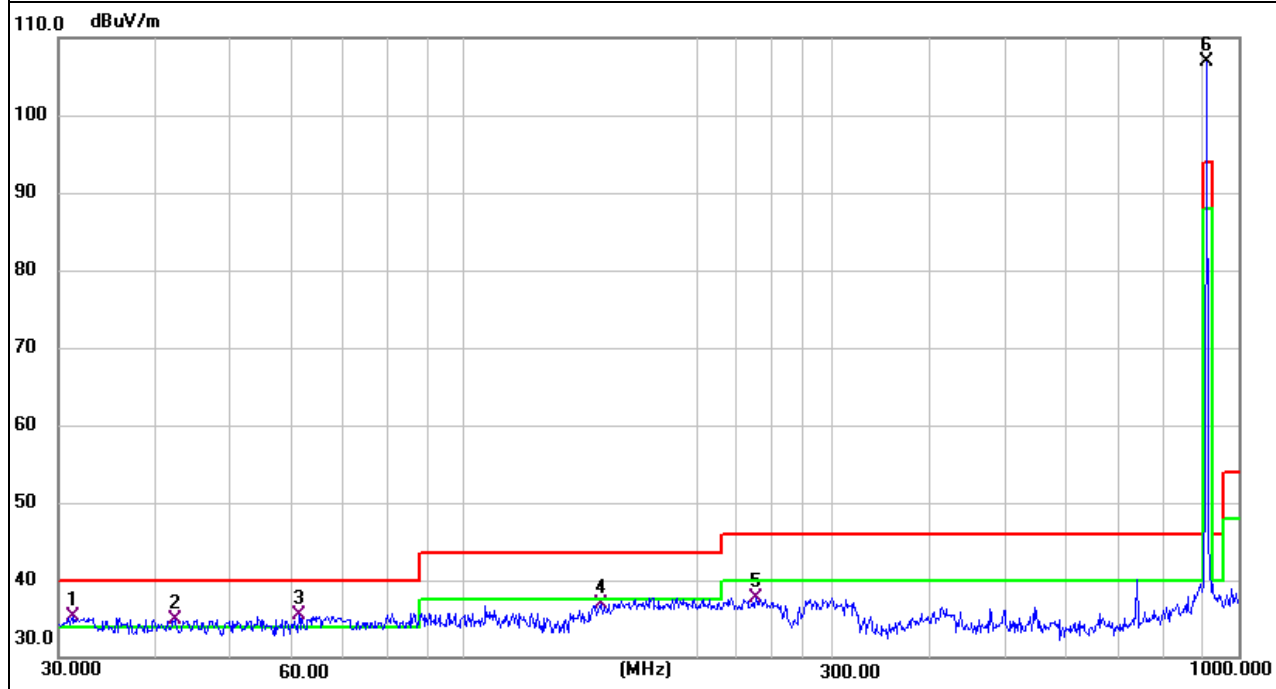
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant2	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
31.3992	18.47	16.83	35.30	40.00	-4.70	QP
42.4508	15.77	19.12	34.89	40.00	-5.11	QP
61.3463	16.76	18.68	35.44	40.00	-4.56	QP
150.5377	22.38	14.60	36.98	43.50	-6.52	QP
238.3101	18.63	19.06	37.69	46.00	-8.31	QP
908.7000	75.94	31.02	106.96	114.00	-7.04	Peak
908.7000	-	-	90.71	94.00	-3.29	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

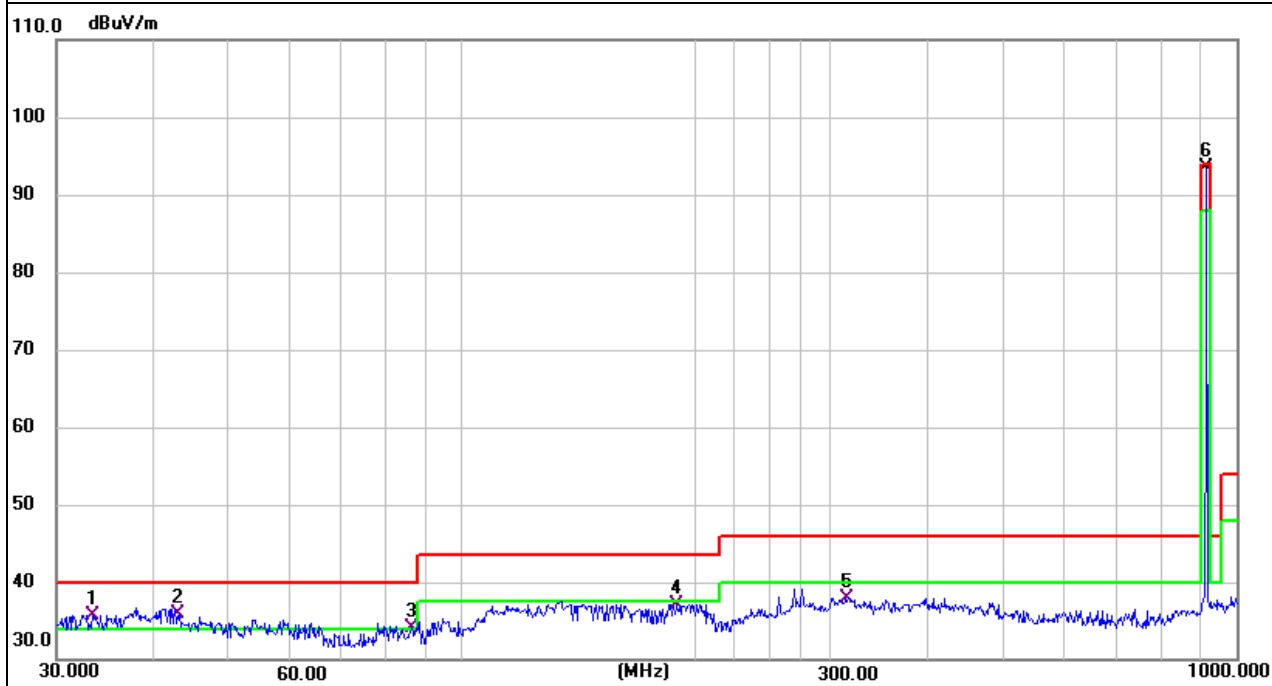
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 2-TX-915.1MHz-Ant1	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
33.4450	18.72	17.04	35.76	40.00	-4.24	QP
43.2014	16.47	19.37	35.84	40.00	-4.16	QP
86.2000	19.30	14.77	34.07	40.00	-5.93	QP
189.7384	19.90	17.19	37.09	43.50	-6.41	QP
315.4806	17.22	20.78	38.00	46.00	-8.00	QP
915.1000	62.50	31.02	93.52	114.00	-20.48	Peak
915.1000	-	-	77.27	94.00	-16.73	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

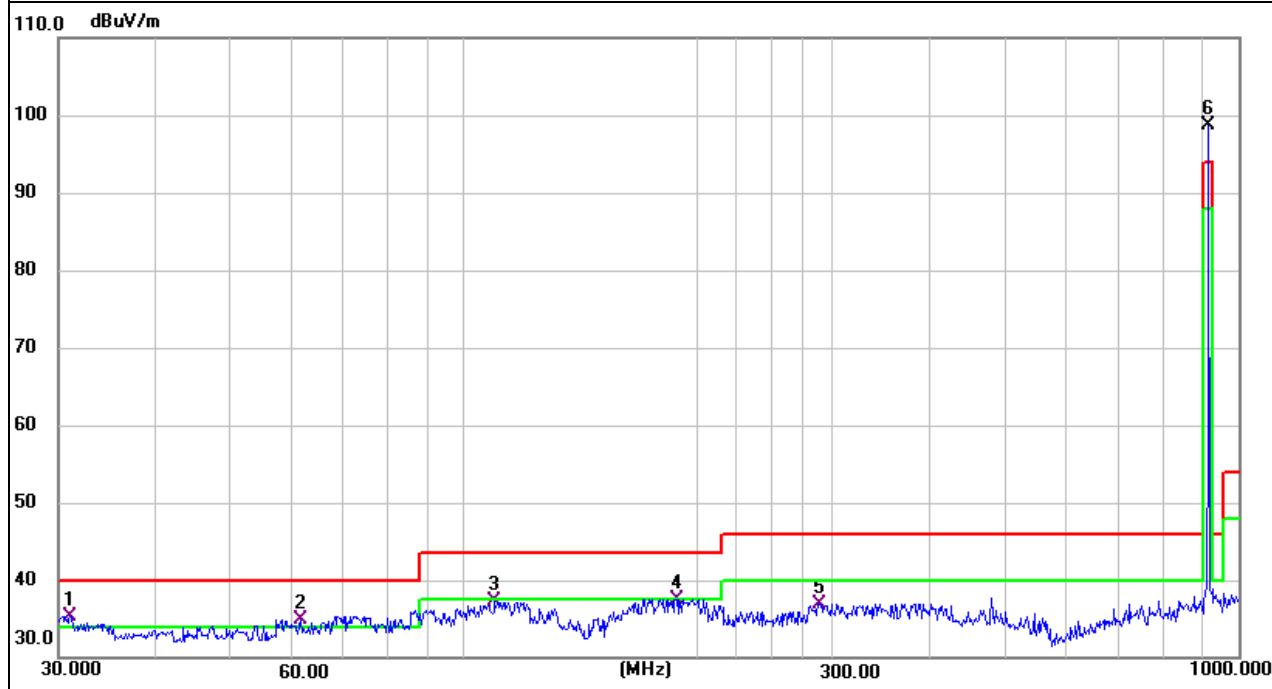
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 2-TX-915.1MHz-Ant1	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
31.0703	18.54	16.80	35.34	40.00	-4.66	QP
61.7780	16.38	18.59	34.97	40.00	-5.03	QP
109.7960	19.47	17.83	37.30	43.50	-6.20	QP
188.4122	20.47	17.12	37.59	43.50	-5.91	QP
287.9904	16.76	20.17	36.93	46.00	-9.07	QP
915.1000	67.66	31.03	98.69	114.00	-15.31	Peak
915.1000	-	-	82.44	94.00	-11.56	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

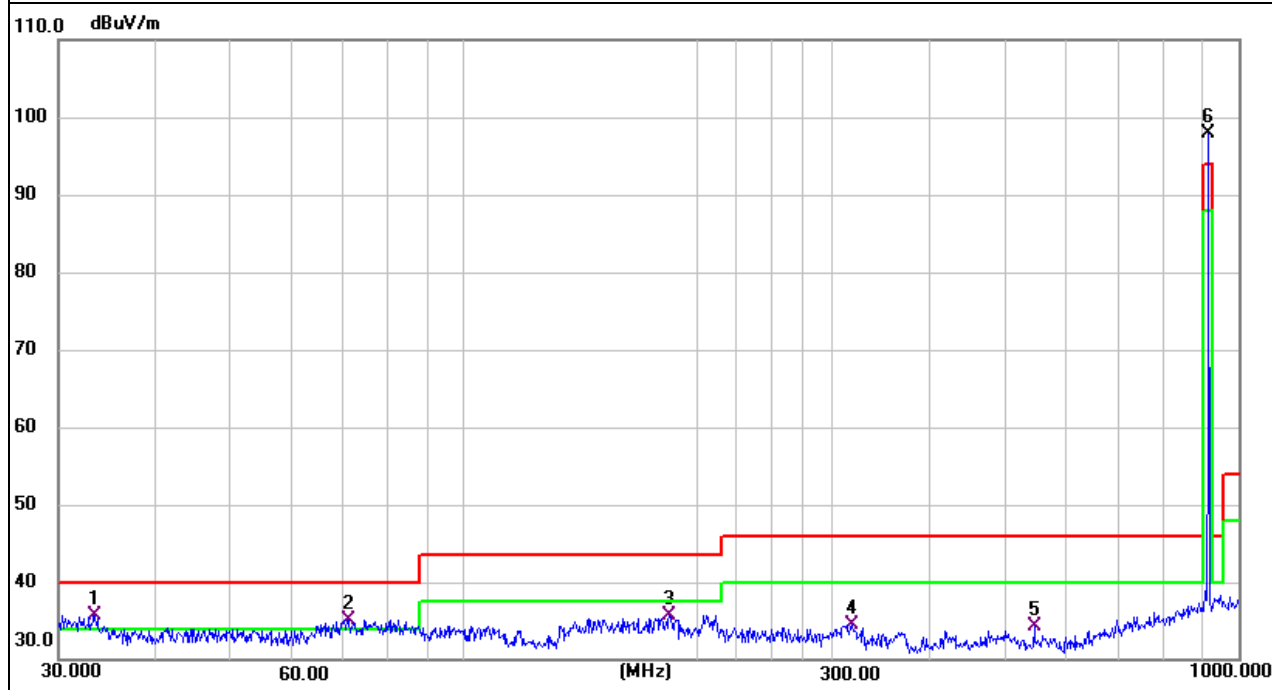
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 2-TX-915.1MHz-Ant2	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
33.4450	18.74	17.04	35.78	40.00	-4.22	QP
71.0802	19.59	15.59	35.18	40.00	-4.82	QP
184.4898	19.02	16.73	35.75	43.50	-7.75	QP
316.5890	13.78	20.81	34.59	46.00	-11.41	QP
915.0683	8.89	25.46	34.35	46.00	-11.65	QP
915.1000	66.82	31.03	97.85	114.00	-16.15	Peak
915.1000	-	-	81.60	94.00	-12.40	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

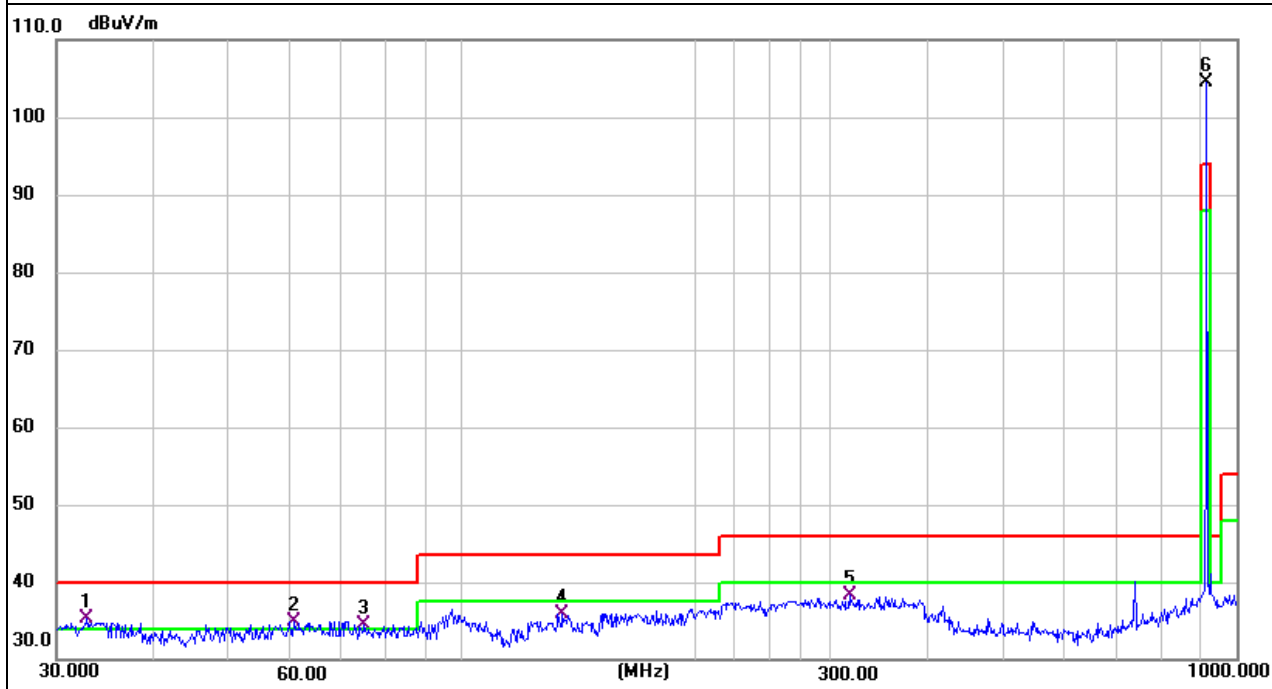
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 2-TX-915.1MHz-Ant2	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
32.8635	18.32	16.98	35.30	40.00	-4.70	QP
60.7043	16.19	18.77	34.96	40.00	-5.04	QP
74.9191	20.22	14.36	34.58	40.00	-5.42	QP
135.0318	21.42	14.57	35.99	43.50	-7.51	QP
316.5890	17.59	20.81	38.40	46.00	-7.60	QP
915.0683	73.57	31.02	104.59	114.00	-9.41	Peak
915.0683	-	-	88.34	94.00	-5.66	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

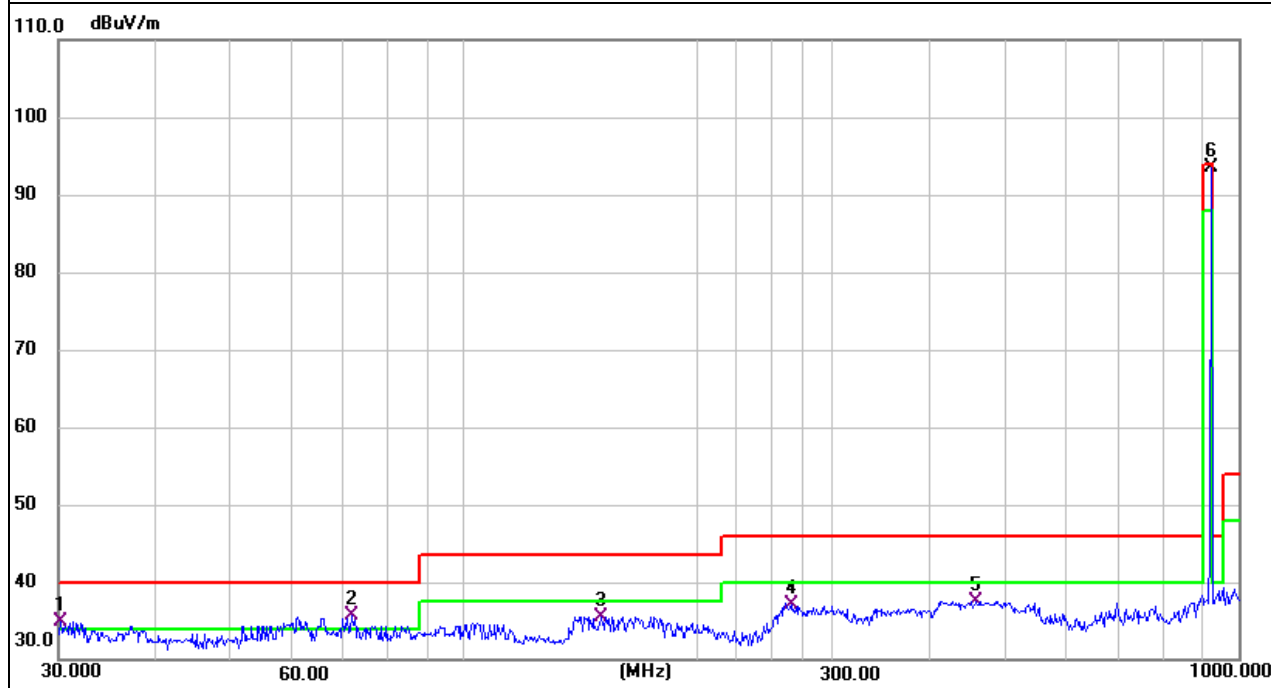
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant1	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
30.2110	18.08	16.86	34.94	40.00	-5.06	QP
71.8320	20.27	15.36	35.63	40.00	-4.37	QP
150.5377	20.99	14.60	35.59	43.50	-7.91	QP
264.7456	17.39	19.75	37.14	46.00	-8.86	QP
459.1143	13.52	23.98	37.50	46.00	-8.50	QP
921.3000	62.35	31.08	93.43	114.00	-20.57	Peak
921.3000	-	-	77.18	94.00	-16.82	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

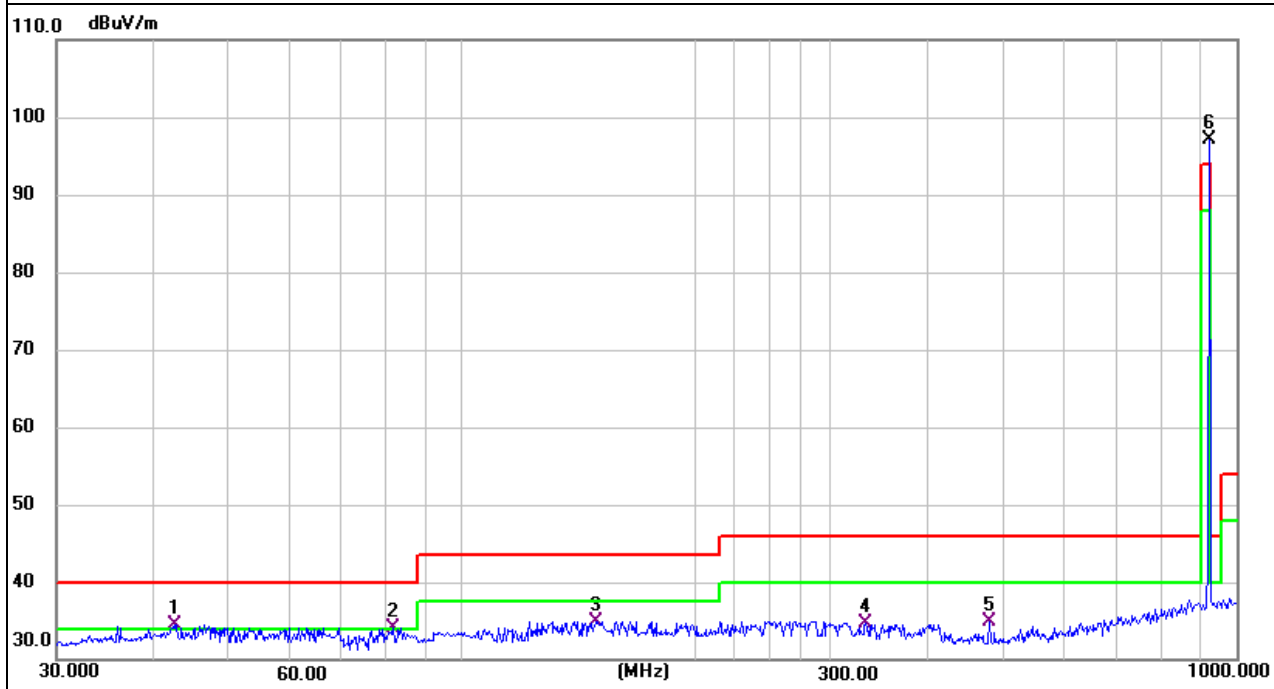
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant1	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
42.6000	15.33	19.18	34.51	40.00	-5.49	QP
81.7831	20.26	13.87	34.13	40.00	-5.87	QP
149.4857	20.38	14.60	34.98	43.50	-8.52	QP
332.5187	13.33	21.31	34.64	46.00	-11.36	QP
480.5276	10.67	24.26	34.93	46.00	-11.07	QP
921.3000	66.05	31.08	97.13	114.00	-16.87	Peak
921.3000	-	-	80.88	94.00	-13.12	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

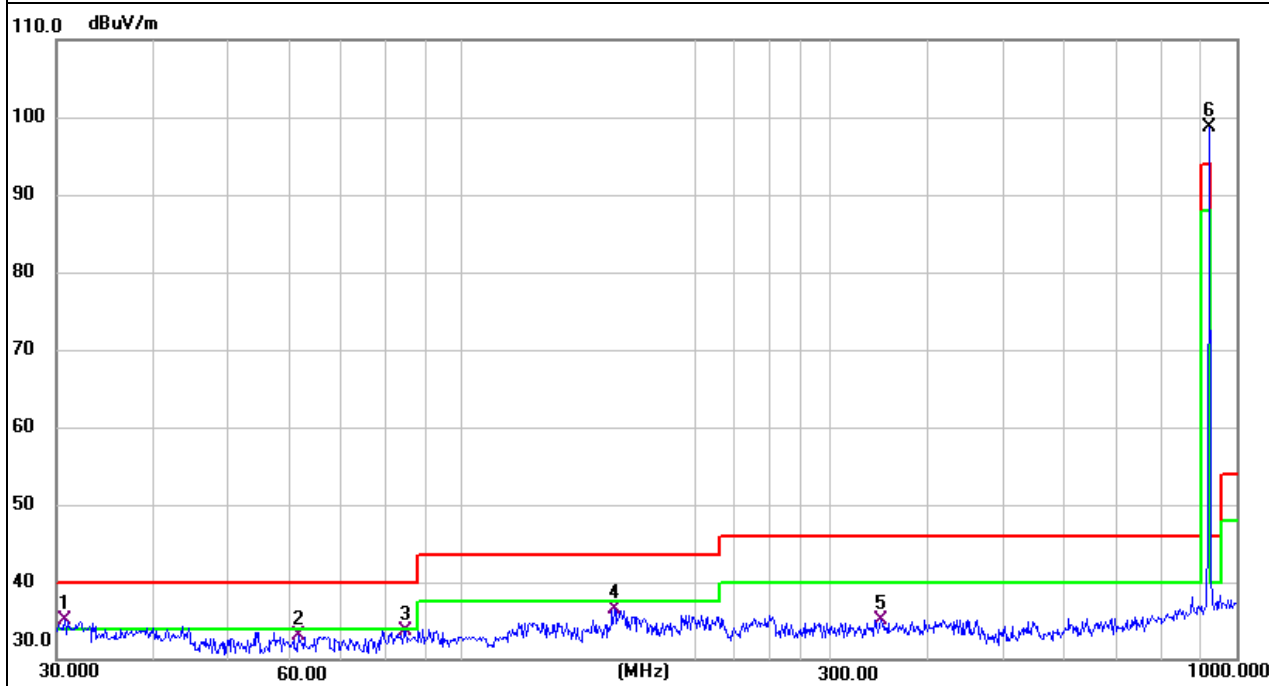
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant2	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
30.7454	18.37	16.81	35.18	40.00	-4.82	QP
61.5618	14.38	18.64	33.02	40.00	-6.98	QP
84.7020	19.33	14.40	33.73	40.00	-6.27	QP
157.5588	21.53	14.92	36.45	43.50	-7.05	QP
348.0274	13.36	21.81	35.17	46.00	-10.83	QP
921.3000	67.67	31.08	98.75	114.00	-15.25	Peak
921.3000	-	-	82.50	94.00	-11.50	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

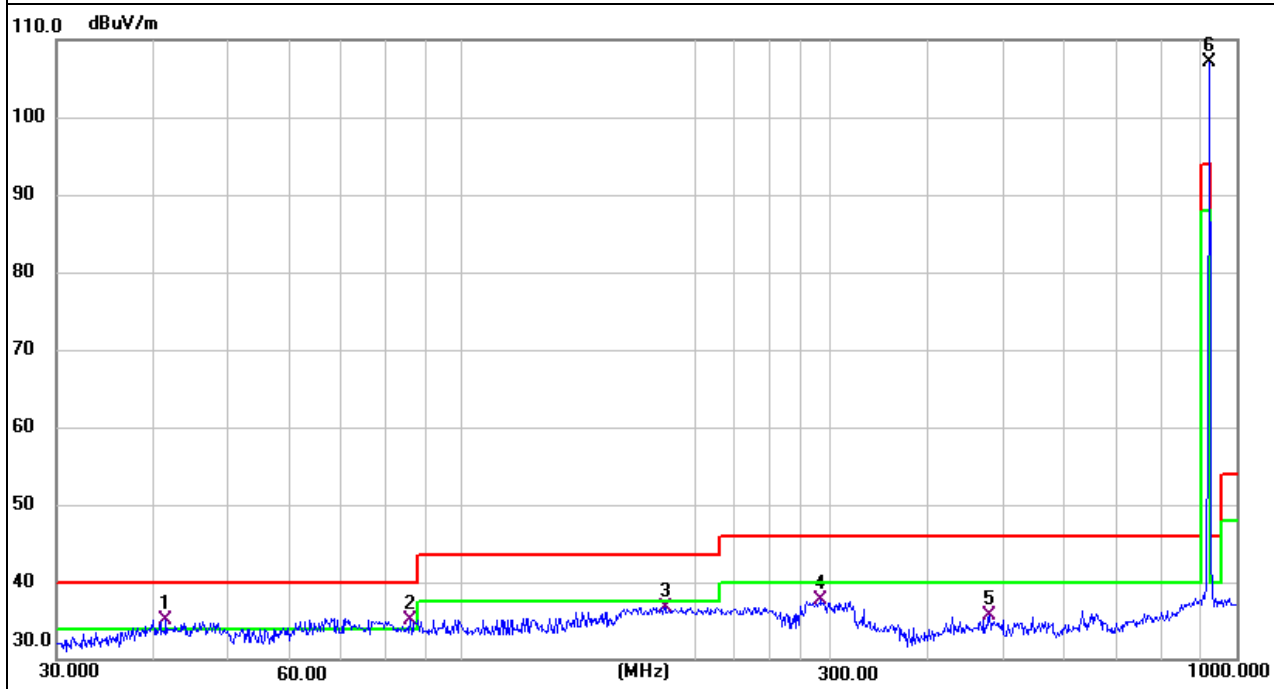
Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant2	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
41.5670	16.22	18.85	35.07	40.00	-4.93	QP
85.8983	20.49	14.69	35.18	40.00	-4.82	QP
183.2005	20.26	16.51	36.77	43.50	-6.73	QP
291.0360	17.55	20.24	37.79	46.00	-8.21	QP
480.5276	11.36	24.26	35.62	46.00	-10.38	QP
921.3000	76.04	31.08	107.12	114.00	-6.88	Peak
921.3000	-	-	90.87	94.00	-3.13	AVG

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: The average value of fundamental frequency is:

Average= Peak Value+ 20log(Duty cycle), Final Average= Peak-16.25

3.4.6 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant2	Polarization :	Horizontal

All the modulation modes have been tested, and the worst result was ANT 2

No.	Frequency	Reading	Correct Factor	Dutycycle Factor	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1817.400	68.85	-7.42	-	61.43	74	-12.57	Peak
2	2726.100	70.25	-4.2	-	66.05	74	-7.95	Peak
3	3634.800	56.94	-2.02	-	54.92	74	-19.08	Peak
4	4543.500	67.17	0.47	-	67.64	74	-6.36	Peak
5	1817.400	-	-	-16.25	45.18	54	-8.82	AVG
6	2726.100	-	-	-16.25	49.80	54	-4.20	AVG
7	3634.800	-	-	-16.25	38.67	54	-15.33	AVG
8	4543.500	-	-	-16.25	51.39	54	-2.61	AVG

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant2	Polarization :	Vertical

No.	Frequency	Reading	Correct Factor	Dutycycle Factor	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1817.400	63.68	-7.42	-	56.26	74	-17.74	Peak
2	2726.100	57.25	-4.2	-	53.05	74	-20.95	Peak
3	3634.800	51.47	-2.02	-	49.45	74	-24.55	Peak
4	4543.500	67.74	0.47	-	68.21	74	-5.79	Peak
5	1817.400	-	-	-16.25	40.01	54	-13.99	AVG
6	2726.100	-	-	-16.25	36.80	54	-17.20	AVG
7	3634.800	-	-	-16.25	33.20	54	-20.80	AVG
8	4543.500	-	-	-16.25	51.96	54	-2.04	AVG

Note:that all other emissions above 1GHz are attenuated 30dB below the limit, so it does not record.

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 2-TX-915.1MHz-Ant2	Polarization :	Horizontal

All the modulation modes have been tested, and the worst result was ANT 2

No.	Frequency	Reading	Correct Factor	Dutycycle Factor	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1830.200	63.59	-7.35	-	56.24	74	-17.76	Peak
2	2745.300	68.15	-4.15	-	64.00	74	-10.00	Peak
3	3660.400	55.82	-1.94	-	53.88	74	-20.12	Peak
4	4575.500	65.47	0.54	-	66.01	74	-7.99	Peak
5	1830.200	-	-	-16.25	39.99	54	-14.01	AVG
6	2745.300	-	-	-16.25	47.75	54	-6.25	AVG
7	3660.400	-	-	-16.25	37.63	54	-16.37	AVG
8	4575.500	-	-	-16.25	49.76	54	-4.24	AVG

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 2-TX-915.1MHz-Ant2	Polarization :	Vertical

No.	Frequency	Reading	Correct Factor	Dutycycle Factor	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1830.200	61.94	-7.35	-	54.59	74	-19.41	Peak
2	2745.300	54.28	-4.15	-	50.13	74	-23.87	Peak
3	3660.400	51.46	-1.94	-	49.52	74	-24.48	Peak
4	4575.500	64.88	0.54	-	65.42	74	-8.58	Peak
5	1830.200	-	-	-16.25	38.34	54	-15.66	AVG
6	2745.300	-	-	-16.25	33.88	54	-20.12	AVG
7	3660.400	-	-	-16.25	33.27	54	-20.73	AVG
8	4575.500	-	-	-16.25	49.17	54	-4.83	AVG

Note:that all other emissions above 1GHz are attenuated 30dB below the limit, so it does not record.

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant2	Polarization :	Horizontal

All the modulation modes have been tested, and the worst result was ANT 2

No.	Frequency	Reading	Correct Factor	Dutycycle Factor	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1842.600	69.36	-7.26	-	62.10	74	-11.90	Peak
2	2763.900	70.72	-4.09	-	66.63	74	-7.37	Peak
3	3685.200	57.7	-1.87	-	55.83	74	-18.17	Peak
4	4606.500	67.66	0.62	-	68.28	74	-5.72	Peak
5	1842.600	-	-	-16.25	45.85	54	-8.15	AVG
6	2763.900	-	-	-16.25	50.38	54	-3.62	AVG
7	3685.200	-	-	-16.25	39.58	54	-14.42	AVG
8	4606.500	-	-	-16.25	52.03	54	-1.97	AVG

EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant2	Polarization :	Vertical

No.	Frequency	Reading	Correct Factor	Dutycycle Factor	Result	Limit	Over Limit	Remark
	(MHz)	(dBuV/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	1842.600	64.46	-7.26	-	57.20	74	-16.80	Peak
2	2763.900	56.93	-4.09	-	52.84	74	-21.16	Peak
3	3685.200	52.31	-1.87	-	50.44	74	-23.56	Peak
4	4606.500	67.85	0.62	-	68.47	74	-5.53	Peak
5	1842.600	-	-	-16.25	40.95	54	-13.05	AVG
6	2763.900	-	-	-16.25	36.59	54	-17.41	AVG
7	3685.200	-	-	-16.25	34.19	54	-19.81	AVG
8	4606.500	-	-	-16.25	52.22	54	-1.78	AVG

Note:that all other emissions above 1GHz are attenuated 30dB below the limit, so it does not record.

3.4.7 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

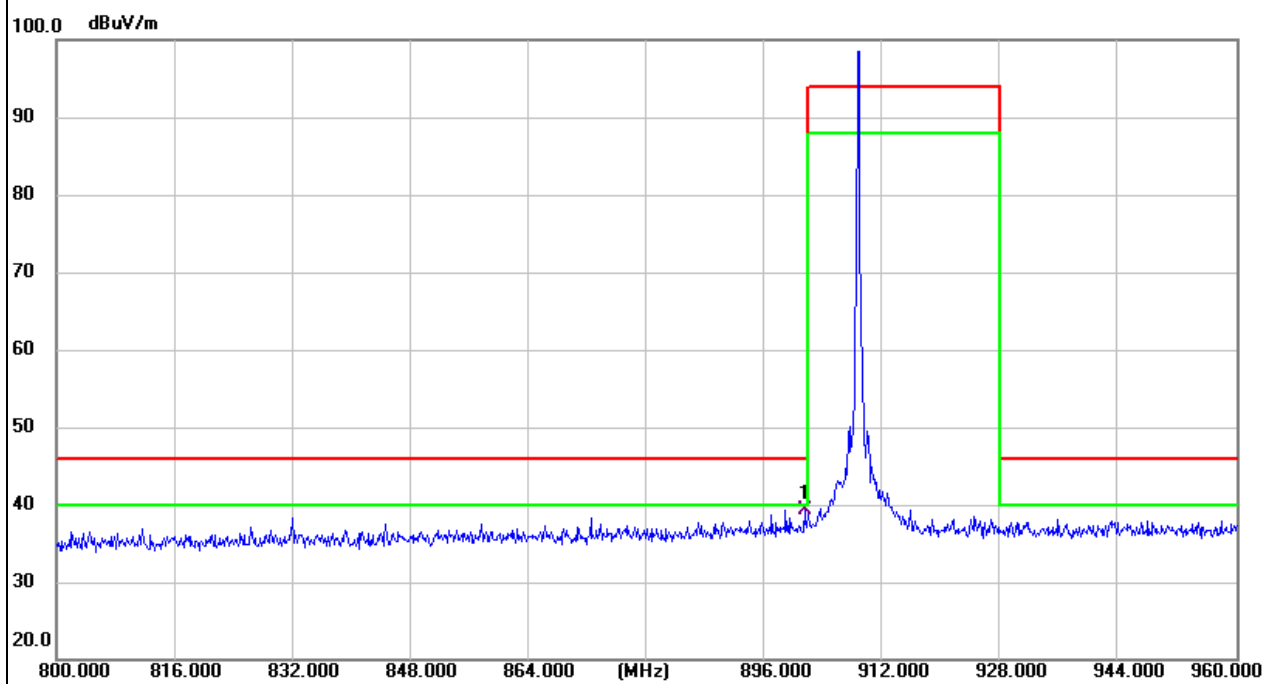
EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant2	Polarization :	Vertical

All the modulation modes have been tested, and the worst result was Ant 2

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
901.4400	8.29	31.01	39.30	46.00	-6.70	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

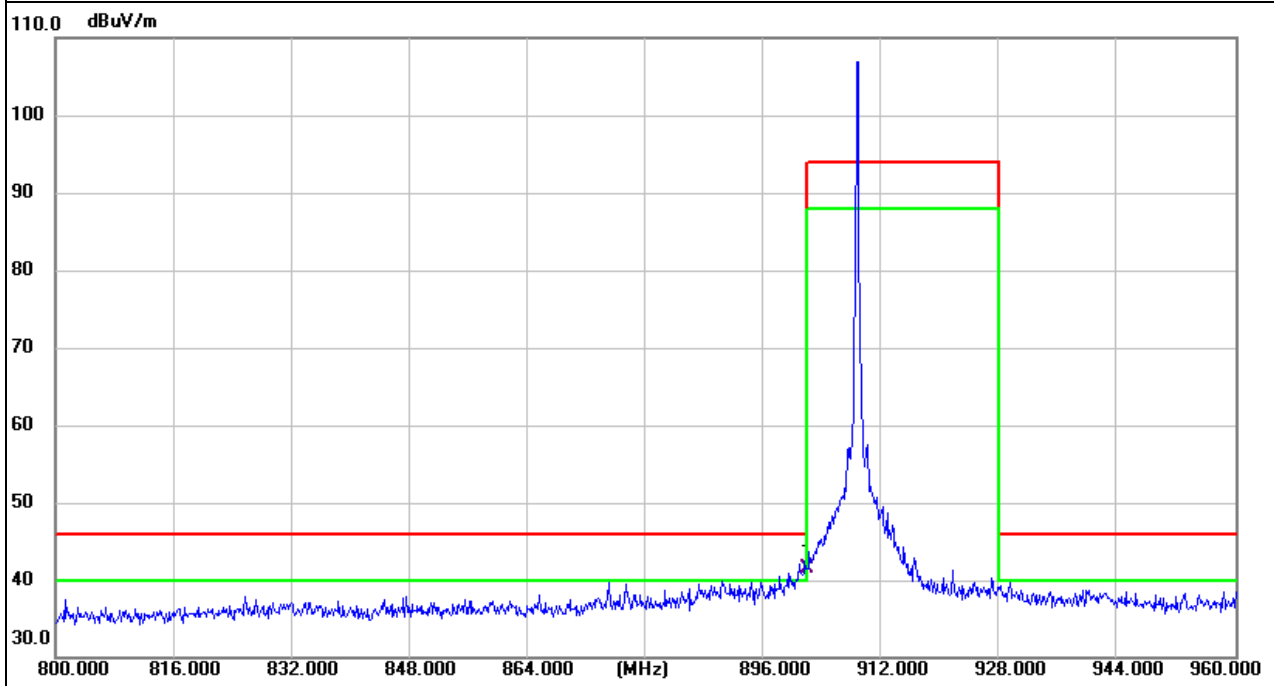


EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 1-TX-908.7MHz-Ant2	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
902.0000	10.41	31.01	41.42	46.00	-4.58	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

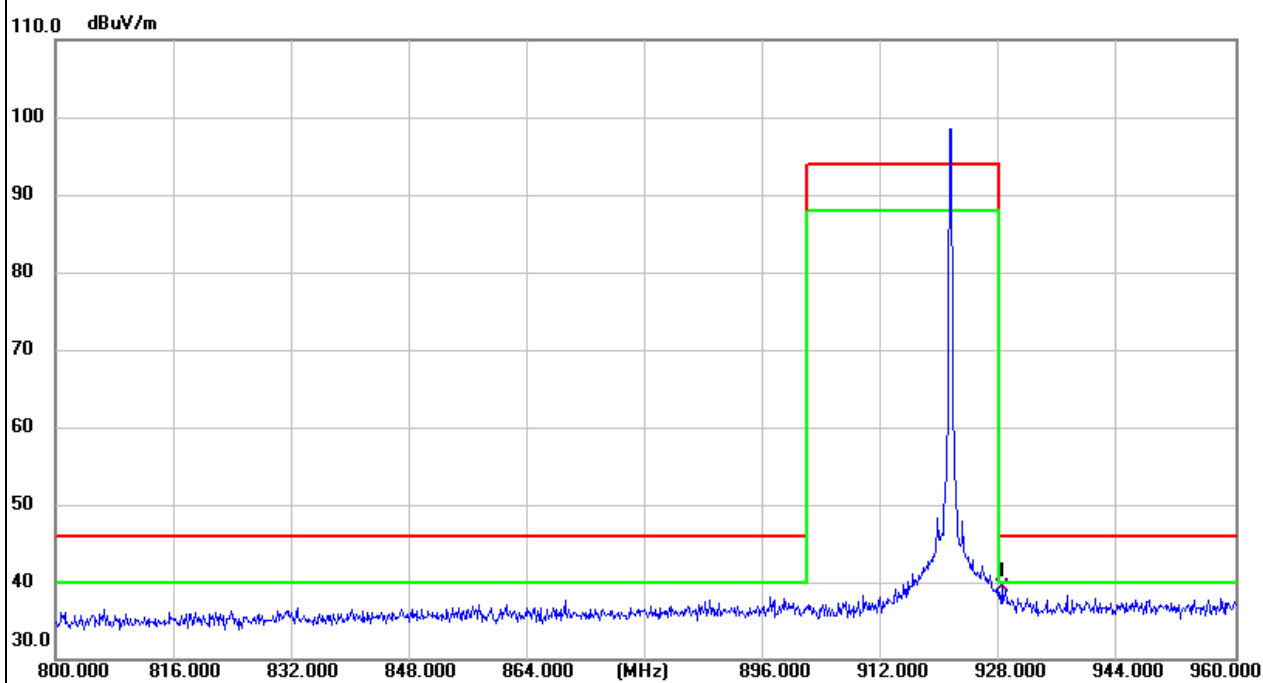


EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant2	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
928.3200	8.22	31.14	39.36	46.00	-6.64	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

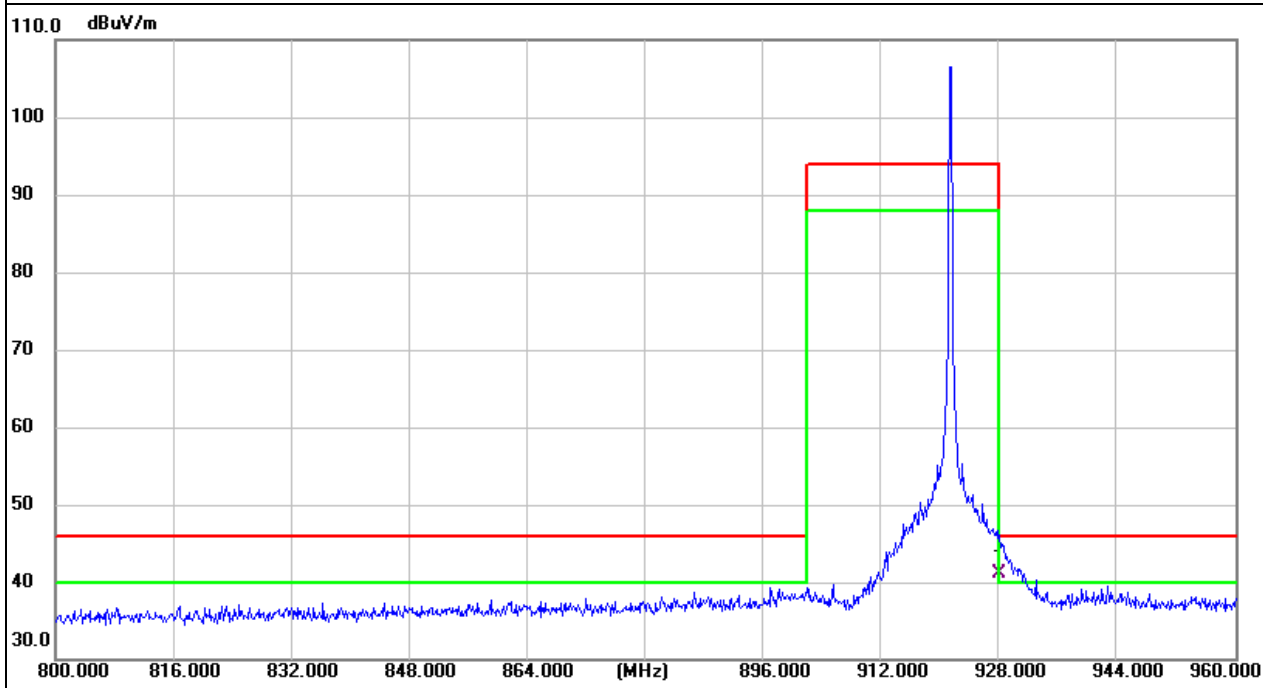


EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	25 °C	Relative Humidity :	51%
Pressure :	1010 hPa	Test Voltage :	DC 3.6V
Test Mode :	Mode 3-TX-921.3MHz-Ant2	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
928.0150	10.01	31.14	41.15	46.00	-4.85	QP

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.



Note: 1. EUT Pre-scan X/Y/Z orientation, only worst case is presented in the report(Y orientation).

2. *Calculate Average value based on Duty Cycle correction factor:

ANT1: Ton1= 15.35ms

Duty Cycle=Ton/(Ton+Toff) =15.35/100=0.154=15.4%

Duty Cycle factor= 20log (Duty Cycle) =20log (0.154) = -16.25

Average=Peak+ Duty Cycle factor

Pulse Desensitization Correction Factor

Pulse Width(PW)= 100ms

2/PW=2/100ms=0.02kHz

RBW(100kHz)> 2/PW (0.02kHz)

Therefore PDCF is not needed.

Duty Cycle:

The duty cycle is simply the on time divided by the period:

The duration of one cycle = 100ms

Effective period of the cycle =15.35ms

Duty Cycle =15.35/100=0.154=15.4%

Average pulsed signal over one complete pulse train or 100 ms time frame if pulse train exceeds 100 ms.

ANT2: Ton1= 15.35ms

Duty Cycle=Ton/(Ton+Toff) =15.35/100=0.154=15.4%

Duty Cycle factor= 20log (Duty Cycle) =20log (0.154) = -16.25

Average=Peak+ Duty Cycle factor

Pulse Desensitization Correction Factor

Pulse Width(PW)= 100ms

2/PW=2/100ms=0.02kHz

RBW(100kHz)> 2/PW (0.02kHz)

Therefore PDCF is not needed.

Duty Cycle:

The duty cycle is simply the on time divided by the period:

The duration of one cycle = 100ms

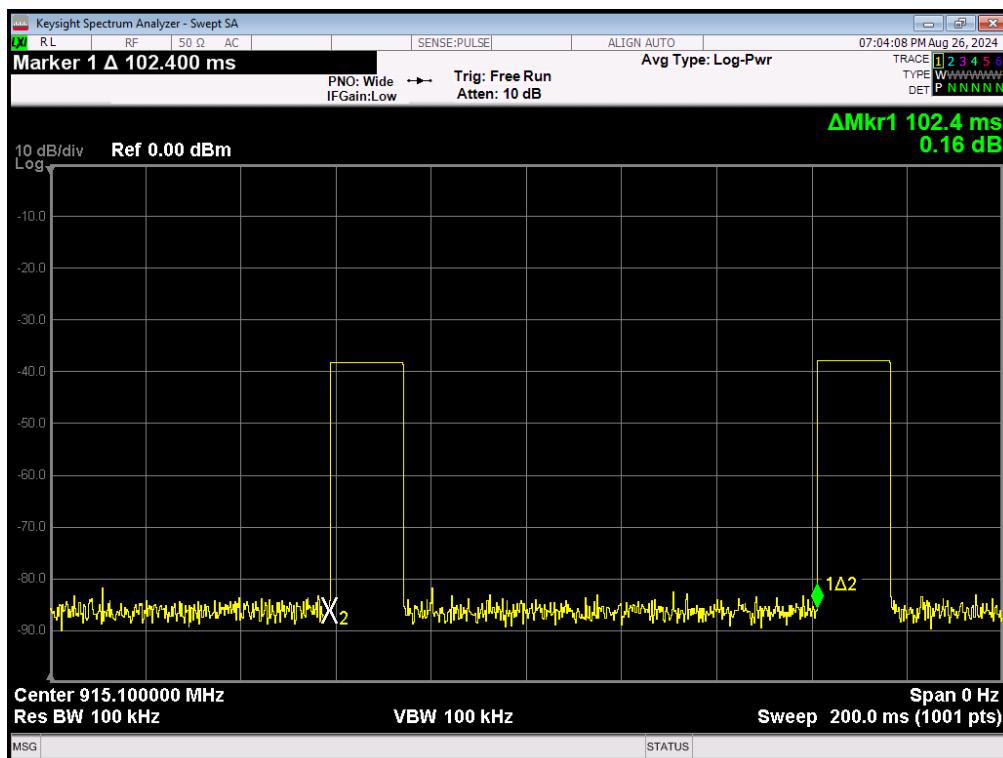
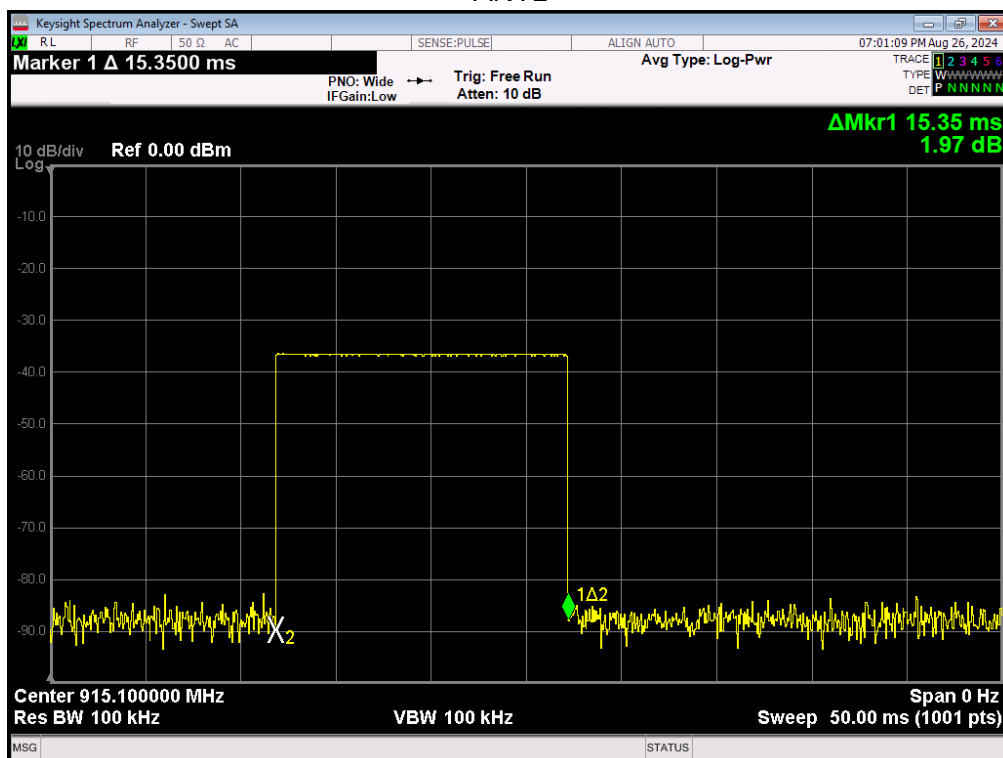
Effective period of the cycle =15.35ms

Duty Cycle =15.35/100=0.154=15.4%

Average pulsed signal over one complete pulse train or 100 ms time frame if pulse train exceeds 100 ms.

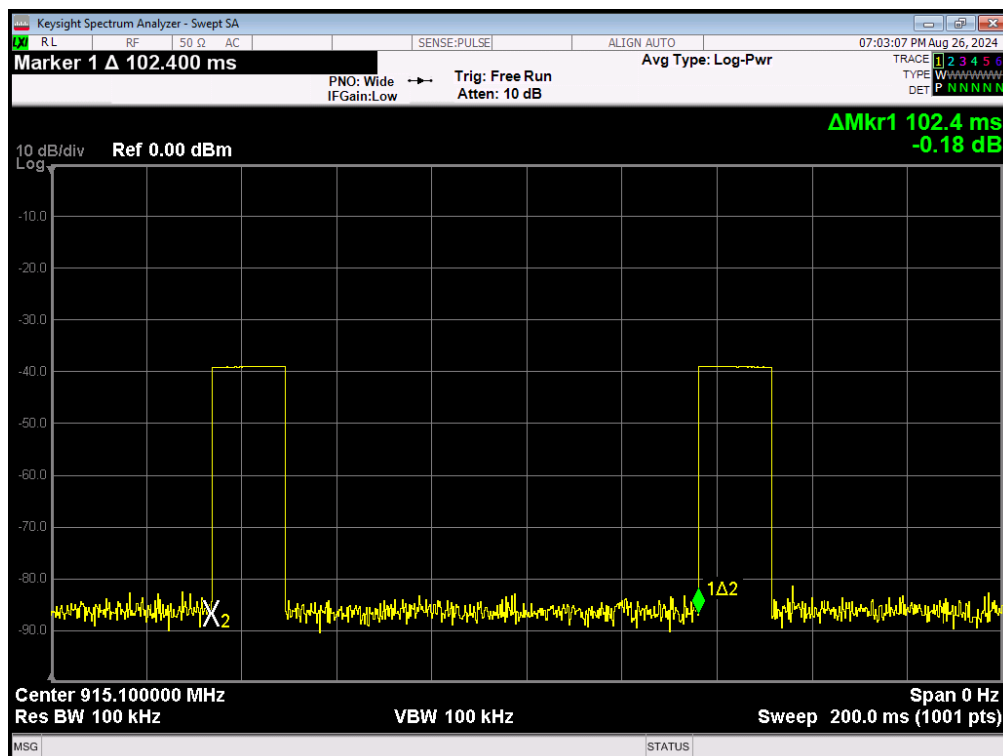
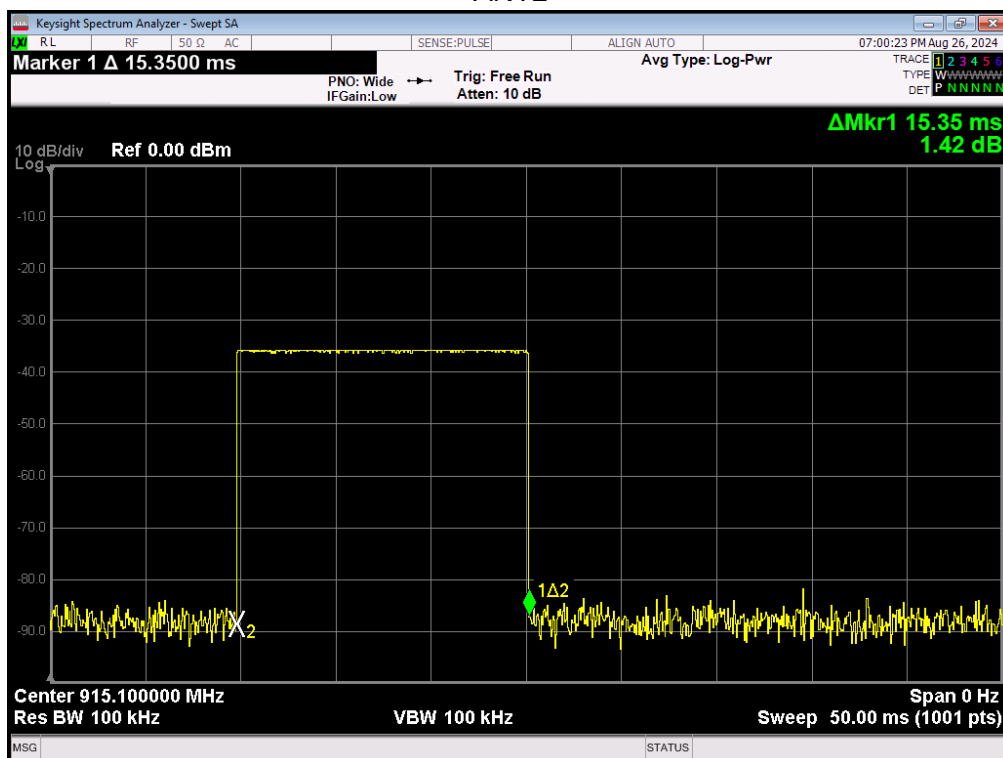
Test Plot For Duty cycle

ANT1



Test Plot For Duty cycle

ANT2



4. BANDWIDTH TEST

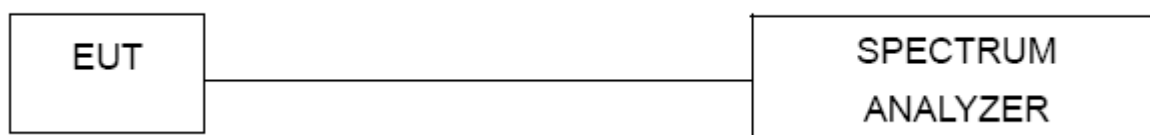
4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value., Sweep time = Auto.

4.2 DEVIATION FROM STANDARD

No deviation.

4.3 TEST SETUP

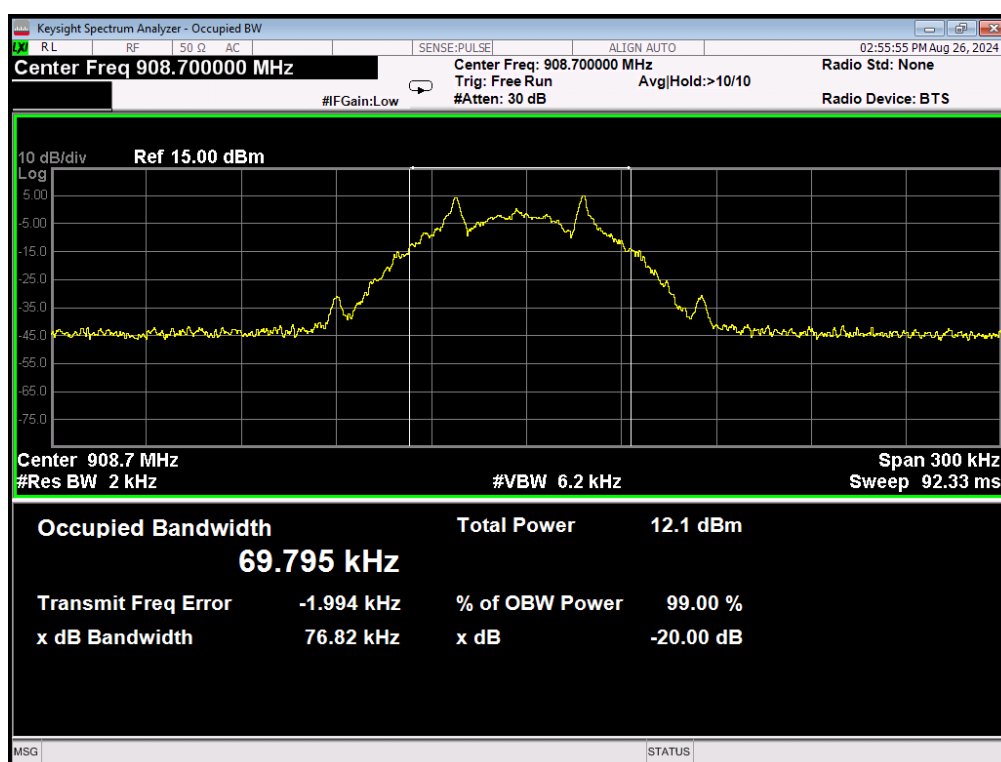


4.4. TEST RESULTS

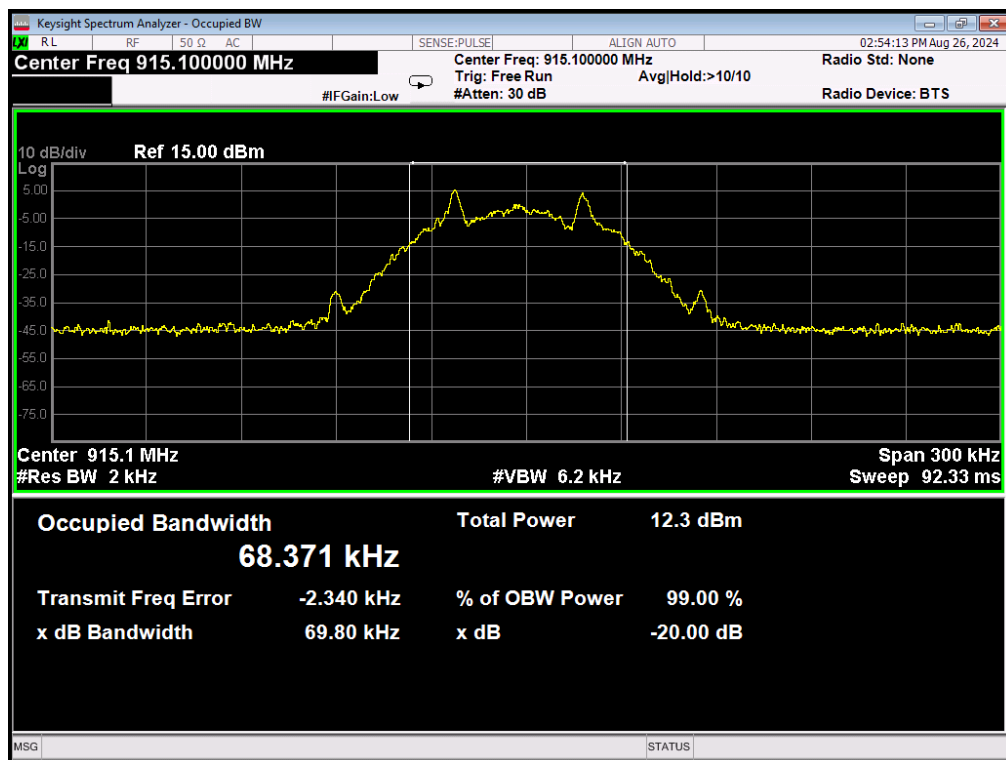
EUT :	Bridgemate III server	Model Name :	BS3-1A
Temperature :	26 °C	Relative Humidity :	53%
Pressure :	1020 hPa	Test Power :	DC 3.6V
Test Mode :	Mode 1/2/3		

ANT 1

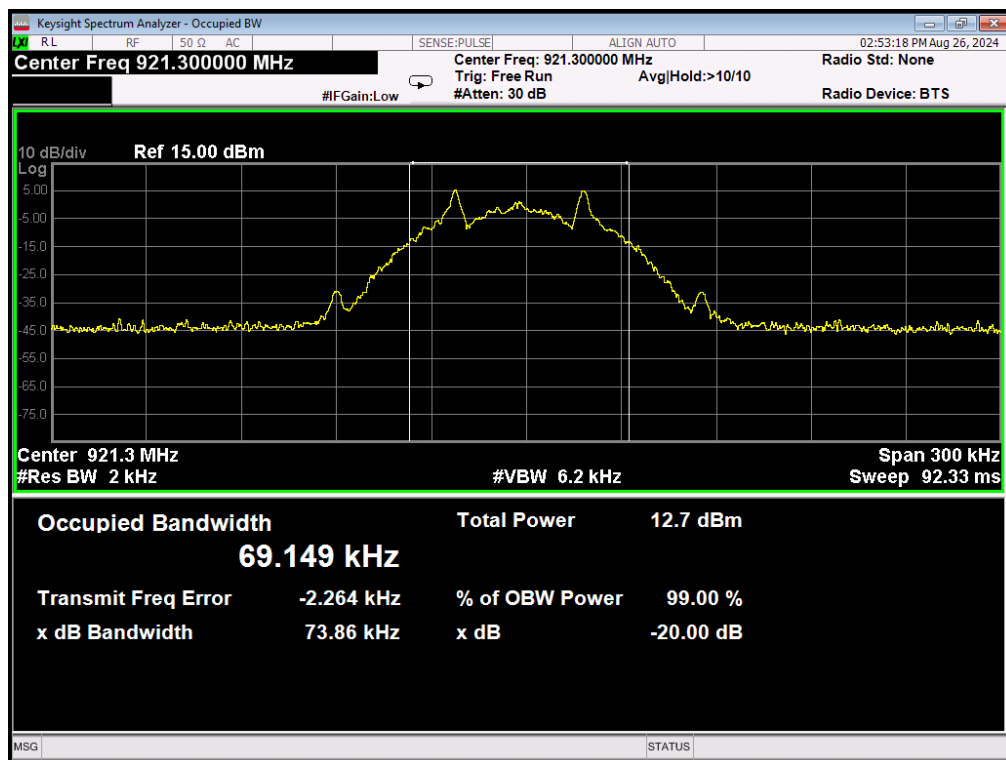
Test Channel	Frequency (MHz)	20 dB Bandwidth (KHz)
CH160	908.7	76.82



Test Channel	Frequency (MHz)	20 dB Bandwidth (KHz)
CH192	915.1	69.80

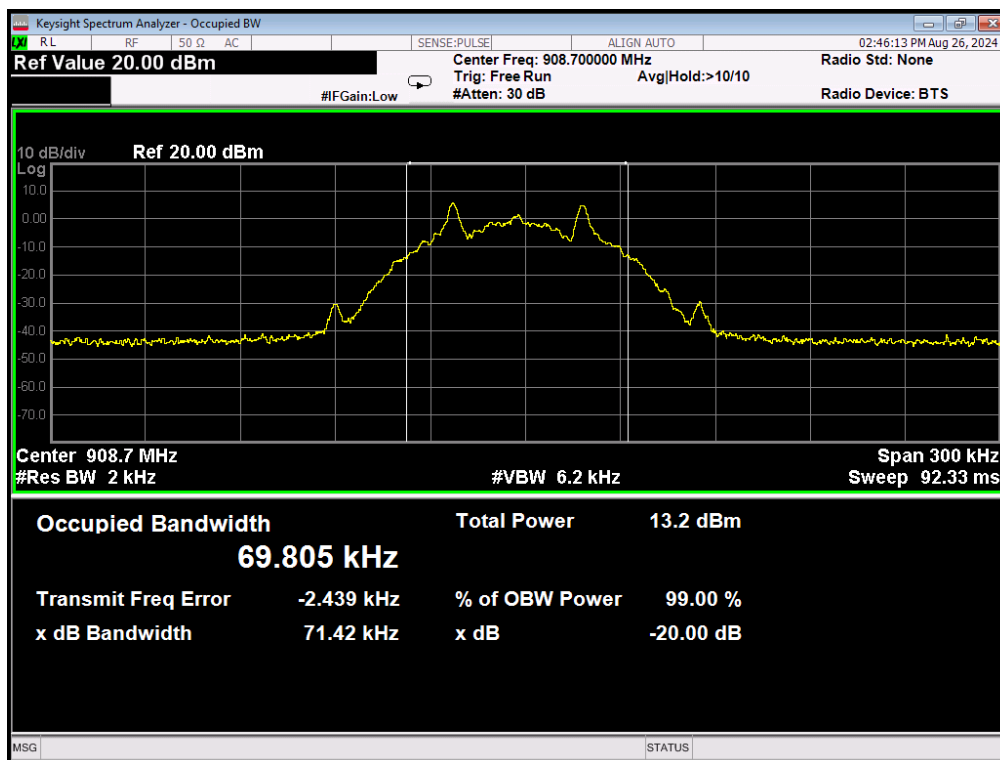


Test Channel	Frequency (MHz)	20 dB Bandwidth (KHz)
CH223	921.3	73.86

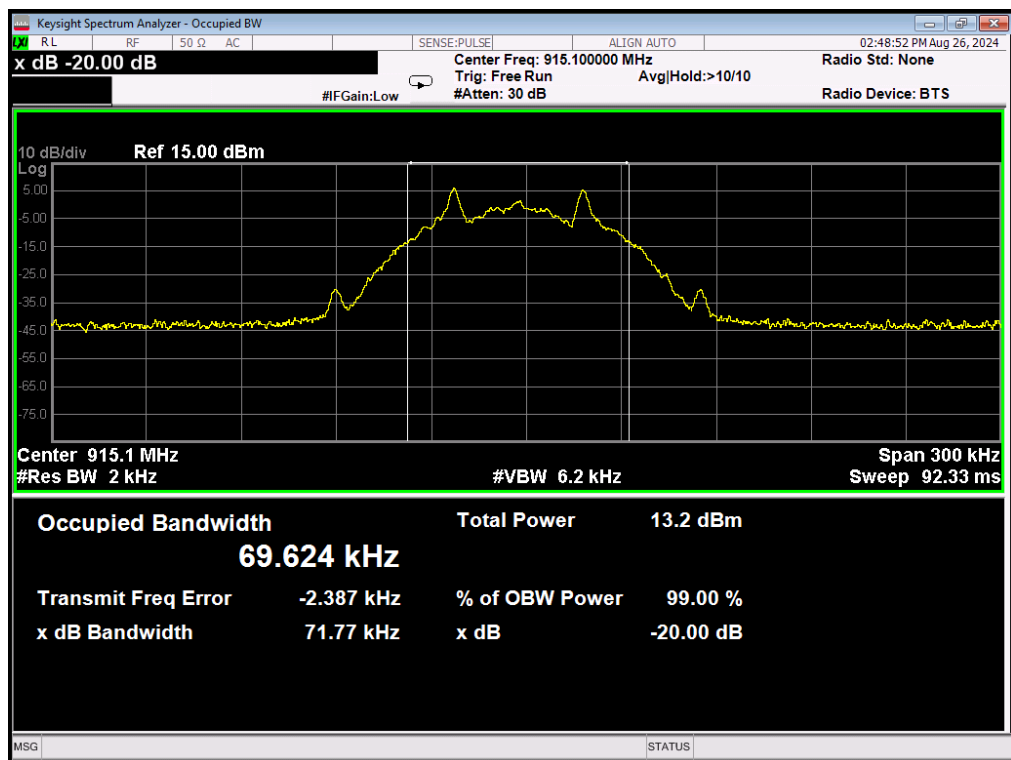


ANT 2

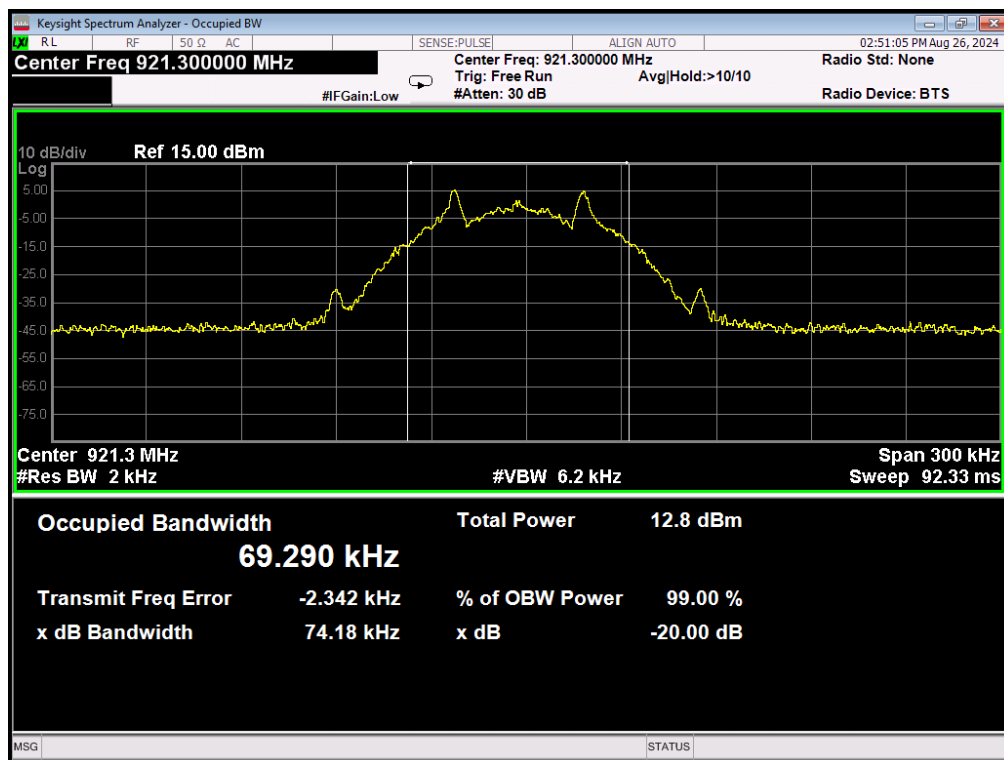
Test Channel	Frequency (MHz)	20 dB Bandwidth (KHz)
CH160	908.7	71.2



Test Channel	Frequency (MHz)	20 dB Bandwidth (KHz)
CH192	915.1	71.77



Test Channel	Frequency (MHz)	20 dB Bandwidth (KHz)
CH223	921.3	74.18



END OF REPORT