



## *EMC Test Data*

Client:	Schlumberger	Job Number:	J45791
Model:	BLT III Transciever	T-Log Number:	T45928
		Proj Eng:	David Bare
Contact:	Jeff Webster		
Emissions Spec:	FCC 15 & 15.247	Class:	B
Immunity Spec:	-	Environment:	-

# EMC Test Data

For The

**Schlumberger**

Model

**BLT III Transciever**



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### EUT INFORMATION

#### General Description

The EUT is a pulsed direct sequence spread spectrum radio operating in the 900 MHz ISM band. Normally, the EUT would be integrated in a system installed in a field (outdoor) location during operation. The EUT was tested independently of the system it will be installed into. The antenna and interface to the antenna used during testing is the same type as used in end user environment. The EUT was, therefore, treated as table-top equipment during testing to simulate the end user environment. The electrical rating of the EUT is 10.5 - 15 Volts DC.

#### Equipment Under Test

Manufacturer	Model	Description	Serial Number	FCC ID
Schlumberger	BLT III	DSSS Radio	P6	

#### Other EUT Details

The RF output of the EUT was connected to a whip antenna

#### EUT Enclosure

The EUT enclosure is primarily constructed of fabricated sheet steel. It measures approximately 16.5 cm wide by 11.4 cm deep by 2.5 cm high.

#### Modification History

Mod. #	Test	Date	Modification
1			
2			
3			



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Immunity Spec: -	Environment: -

### Test Configuration #1

#### Local Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
Dell	Latitude	Laptop	N/A	DoC
BK-Precision	1682	Power Supply	N/A	N/A

#### Remote Support Equipment

Manufacturer	Model	Description	Serial Number	FCC ID
None				

#### Interface Ports

Port	Connected To	Cable(s)		
		Description	Shielded or Unshielded	Length(m)
RF Out	Antenna	RF Coax	Shielded	0.8
DC In	Power Supply	2 wire	Unshielded	1.5
Serial	Laptop	Multiwire	Unshielded	1.5

#### EUT Operation During Emissions

The EUT was transmitting 5 pulses per second at either the low channel (911.58 Mhz) or the high channel (917.58 MHz)



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Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Radiated Emissions

#### Test Specifics

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 2/25/02  
Test Engineer: jmartinez  
Test Location: SVOATS #3

Config. Used: 1  
Config Change: None  
EUT Voltage: 12Vdc

#### General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated spurious emissions testing. Local support equipment was placed underneath the table.

For radiated emissions testing the measurement antenna was located 3 meters from the EUT.

**Ambient Conditions:** Temperature: 21.1°C  
Rel. Humidity: 29%

#### Summary of Results

Run #	Test Performed	Limit	Result	Comment
1a	RE, 30 - 9115.8 MHz - Spurious Emissions	FCC Part 15.209 / 15.247(c)	Pass	OOK
1b	RE, 30 - 9175.8 MHz - Spurious Emissions	FCC Part 15.209 / 15.247(c)	Pass	OOK
2a	RE, 30 - 9115.8 MHz - Spurious Emissions	FCC Part 15.209 / 15.247(c)	Pass	CCSK
2b	RE, 30 - 9175.8 MHz - Spurious Emissions	FCC Part 15.209 / 15.247(c)	Pass	CCSK

#### Modifications Made During Testing:

No modifications were made to the EUT during testing

#### Deviations From The Standard

No deviations were made from the requirements of the standard.



## EMC Test Data

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	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

**Run #1a: Radiated Spurious Emissions, 30-9115.8 MHz. Low Channel @ 911.58 MHz**  
**Modulation OOK.**

	H	V
Fundamental emission level @ 3m in 100kHz RBW:	112	125
Limit for emissions outside of restricted bands:	105 dBμV/m	

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
9115.800	45.5	v	54.0	-8.5	Avg	169	1.4	Noise Floor
7292.000	41.8	v	54.0	-12.2	Avg	169	1.4	Noise Floor
9115.800	41.2	h	54.0	-12.8	Avg	171	1.2	Noise Floor
2734.000	59.9	v	74.0	-14.1	Pk	250	1.0	Note 1
7292.000	38.5	h	54.0	-15.5	Avg	171	1.2	Noise Floor
9115.800	58.4	v	74.0	-15.6	Pk	169	1.4	Noise Floor
5469.000	56.8	v	74.0	-17.2	Pk	169	1.4	Note 1
2734.000	56.8	h	74.0	-17.2	Pk	298	1.4	Note 1
5469.000	36.0	h	54.0	-18.0	Avg	171	1.2	Note 1
3646.000	55.0	v	74.0	-19.0	Pk	184	1.5	Note 1
4557.000	34.8	v	54.0	-19.2	Avg	162	1.2	Note 1
7292.000	54.6	v	74.0	-19.4	Pk	169	1.4	Noise Floor
4557.000	34.6	h	54.0	-19.4	Avg	162	1.2	Note 1
2734.000	34.4	v	54.0	-19.6	Avg	250	1.0	Note 1
4557.000	54.3	v	74.0	-19.7	Pk	162	1.2	Note 1
2734.000	34.0	h	54.0	-20.0	Avg	298	1.4	Note 1
5469.000	33.8	v	54.0	-20.2	Avg	169	1.4	Note 1
3646.000	33.3	v	54.0	-20.7	Avg	184	1.5	Note 1
3646.000	33.0	h	54.0	-21.0	Avg	231	1.4	Note 1
5469.000	53.0	h	74.0	-21.0	Pk	171	1.2	Note 1
7292.000	51.2	h	74.0	-22.8	Pk	171	1.2	Noise Floor
4557.000	50.4	h	74.0	-23.6	Pk	162	1.2	Note 1
9115.800	50.1	h	74.0	-23.9	Pk	171	1.2	Noise Floor
960.500	30.0	v	54.0	-24.0	QP	0	1.0	
3646.000	48.5	h	74.0	-25.5	Pk	231	1.4	Note 1
960.500	26.0	v	54.0	-28.0	QP	158	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental.



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	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

**Run #1b: Radiated Spurious Emissions, 30-9175.8 MHz. Center Channel @ 917.58 MHz**  
**Modulation OOK.**

	H	V
Fundamental emission level @ 3m in 100kHz RBW:	111	123
Limit for emissions outside of restricted bands:	103 dBμV/m	

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2752.000	48.9	v	54.0	-5.1	Avg	252	1.1	Note 1
3670.000	40.2	v	54.0	-13.8	Avg	280	1.3	Note 1
5505.000	39.8	v	54.0	-14.2	Avg	211	1.2	Note 1
8258.000	39.7	h	54.0	-14.3	Avg	245	1.1	Noise Floor
8258.000	39.6	v	54.0	-14.4	Avg	211	1.2	Noise Floor
2752.000	57.8	v	74.0	-16.2	Pk	252	1.1	Note 1
4587.000	37.5	v	54.0	-16.5	Avg	162	1.3	Note 1
4587.000	56.7	v	74.0	-17.3	Pk	162	1.3	Note 1
5505.000	55.3	v	74.0	-18.7	Pk	211	1.2	Note 1
3670.000	54.2	h	74.0	-19.8	Pk	312	1.7	Note 1
5505.000	34.2	h	54.0	-19.8	Avg	245	1.1	Note 1
3670.000	54.0	v	74.0	-20.0	Pk	280	1.3	Note 1
2752.000	33.7	v	54.0	-20.3	Avg	228	1.8	Note 1
3670.000	32.8	h	54.0	-21.2	Avg	312	1.7	Note 1
4587.000	32.6	h	54.0	-21.4	Avg	160	1.5	Note 1
8258.000	52.4	h	74.0	-21.6	Pk	245	1.1	Noise Floor
5505.000	52.1	h	74.0	-21.9	Pk	245	1.1	Note 1
8258.000	51.8	v	74.0	-22.2	Pk	211	1.2	Noise Floor
4587.000	51.0	h	74.0	-23.0	Pk	160	1.5	Note 1
960.500	26.3	v	54.0	-27.7	QP	0	1.0	
960.500	25.0	v	54.0	-29.0	QP	320	1.0	
2752.000	42.3	v	74.0	-31.7	Pk	228	1.8	Note 1

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental.



## EMC Test Data

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Model: BLT III Transceiver	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Run #2a: Radiated Spurious Emissions, 30-9115.8 MHz. Low Channel @ 911.58 MHz Modulation CCSK.

	H	V
Fundamental emission level @ 3m in 100kHz RBW:	111.5	124.9
Limit for emissions outside of restricted bands:	104.9 dBμV/m	

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2734.000	44.2	v	54.0	-9.8	Avg	262	1.0	Note 1
5469.000	41.4	v	54.0	-12.6	Avg	202	1.5	Note 1
5469.000	39.5	h	54.0	-14.5	Avg	116	1.4	Note 1
8204.000	39.3	v	54.0	-14.7	Avg	202	1.5	Noise Floor
8204.000	38.7	h	54.0	-15.3	Avg	116	1.4	Noise Floor
2734.000	58.7	v	74.0	-15.3	Pk	262	1.0	Note 1
4557.000	38.4	h	54.0	-15.6	Avg	184	1.3	Note 1
3646.000	38.1	v	54.0	-15.9	Avg	195	1.5	Note 1
4557.000	37.5	v	54.0	-16.5	Avg	176	1.2	Note 1
5469.000	55.6	v	74.0	-18.4	Pk	202	1.5	Note 1
2734.000	32.9	h	54.0	-21.1	Avg	118	1.2	Note 1
5469.000	52.8	h	74.0	-21.2	Pk	116	1.4	Note 1
8204.000	52.1	v	74.0	-21.9	Pk	202	1.5	Noise Floor
8204.000	52.1	h	74.0	-21.9	Pk	116	1.4	Noise Floor
3646.000	31.5	h	54.0	-22.5	Avg	178	1.2	Note 1
4557.000	51.3	v	74.0	-22.7	Pk	176	1.2	Note 1
3646.000	50.6	v	74.0	-23.4	Pk	195	1.5	Note 1
2734.000	48.4	h	74.0	-25.6	Pk	118	1.2	Note 1
4557.000	48.4	h	74.0	-25.6	Pk	184	1.3	Note 1
3646.000	45.1	h	74.0	-28.9	Pk	178	1.2	Note 1
960.500	24.9	v	54.0	-29.1	QP	341	1.0	
960.500	24.8	v	54.0	-29.2	QP	329	1.0	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental.



## EMC Test Data

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Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Run #2b: Radiated Spurious Emissions, 30-9175.8 MHz. Center Channel @ 917.58 MHz Modulation CCSK.

	H	V
Fundamental emission level @ 3m in 100kHz RBW:	113	127
Limit for emissions outside of restricted bands:	107 dBμV/m	

Frequency	Level	Pol	15.209 / 15.247		Detector	Azimuth	Height	Comments
MHz	dBμV/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
2752.000	42.8	v	54.0	-11.2	Avg	254	1.1	Note 1
3670.000	40.3	v	54.0	-13.7	Avg	154	1.2	Note 1
8258.000	39.5	h	54.0	-14.5	Avg	172	1.5	Noise Floor
8258.000	39.2	v	54.0	-14.8	Avg	172	1.1	Noise Floor
3670.000	38.5	h	54.0	-15.5	Avg	260	1.5	Note 1
2752.000	57.8	v	74.0	-16.2	Pk	254	1.1	Note 1
5505.000	35.8	h	54.0	-18.2	Avg	172	1.5	Note 1
2752.000	35.5	v	54.0	-18.5	Avg	234	1.3	Note 1
5505.000	34.3	v	54.0	-19.7	Avg	172	1.1	Note 1
4587.000	34.1	v	54.0	-19.9	Avg	161	1.1	Note 1
5505.000	53.9	v	74.0	-20.1	Pk	172	1.1	Note 1
3670.000	53.9	v	74.0	-20.1	Pk	154	1.2	Note 1
4587.000	52.9	v	74.0	-21.1	Pk	161	1.1	Note 1
8258.000	52.4	v	74.0	-21.6	Pk	172	1.1	Noise Floor
8258.000	52.3	h	74.0	-21.7	Pk	172	1.5	Noise Floor
4587.000	32.2	h	54.0	-21.8	Avg	251	1.4	Note 1
3670.000	52.1	h	74.0	-21.9	Pk	260	1.5	Note 1
5505.000	51.3	h	74.0	-22.7	Pk	172	1.5	Note 1
960.500	30.3	v	54.0	-23.7	QP	362	1.0	
2752.000	50.3	v	74.0	-23.7	Pk	234	1.3	Note 1
4587.000	48.6	h	74.0	-25.4	Pk	251	1.4	Note 1
960.500	24.9	v	54.0	-29.1	QP	0	1.5	

Note 1: For emissions in restricted bands, the limit of 15.209 was used. For all other emissions, the limit was set 20dB below the level of the fundamental.





## EMC Test Data

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Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Radiated Emissions

#### Test Specifics

Objective: The objective of this test session is to perform final qualification testing of the EUT with respect to the specification listed above.

Date of Test: 2/21/02	Config. Used: 1
Test Engineer: jmartinez	Config Change: None
Test Location: Chamber #2	EUT Voltage: 12V dc

#### General Test Configuration

When measuring the conducted emissions from the EUT's antenna port, the antenna port of the EUT was connected to the spectrum analyzer or power meter via a suitable attenuator to prevent overloading the measurement system. All measurements are corrected to allow for the external attenuators used.

For the PSD test the following was performed: The rate of the spreading / dispreading code is 19.2655K code sequences per second. The signal carries another modulation at 642 Hz; thus, the spectral line spacing is 642 Hz, which is less than 3 KHz. The testing for spectral density is performed according to FCC Public Notice 54797 for devices with spectrum line spacing equal to, or less than, 3 KHz. The spectral density was taken at a resolution bandwidth lower than 3 kHz per the public notice and the power was normalized to a 3 kHz bandwidth. The sweep time was longer than normal due to the rule that sweep time shall be (span/resolution bandwidth). As the resolution bandwidth was set low enough resolve individual lines the sweep time had to be increased. The same alternative procedure may be found in Federal Register / Vol. 62, No. 92 / Tuesday, May 13, 1997 / Rules and Regulations/ Section 26243.

**Ambient Conditions:**            Temperature: 18°C  
   Rel. Humidity: 41%



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	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Summary of Results

Run #	Test Performed	Limit	Result	Margin
1	6dB Bandwidth	15.247(a)	Pass	Refer to Runs
2	Output Power	15.247(b)	Pass	Refer to Runs
3	Power Spectral Density (PSD)	15.247(d)	Pass	Refer to Runs
4	Bandedge Measurement	15.247(d)	Pass	Refer to plots
5	Out-of-Band	15.247(d)	Pass	Refer to plots
6	Processing Gain	15.247(e)	N/A	Manufacturer to provide data.

### Modifications Made During Testing:

No modifications were made to the EUT during testing

### Deviations From The Standard

No deviations were made from the requirements of the standard.



## EMC Test Data

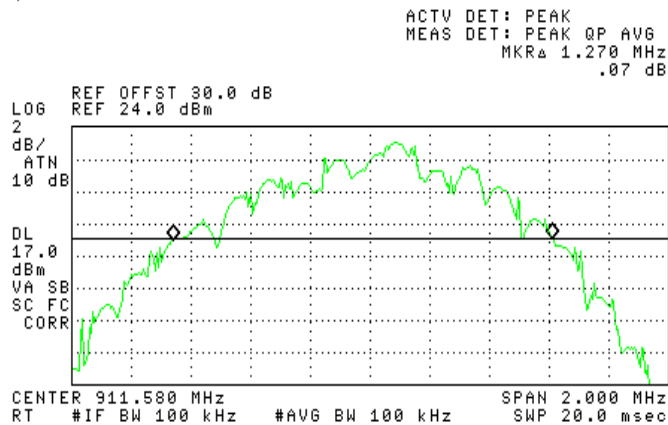
Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

Measurements below are for the OOK Modulation

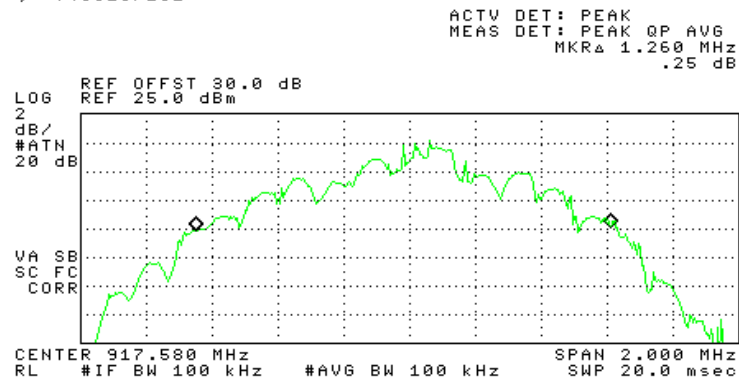
### Run #1: Signal Bandwidth

Channel	Frequency (MHz)	Resolution Bandwidth	6dB Signal Bandwidth	Graph reference #
Low	911.58	100 kHz	1.27 MHz	T45928/101
High	917.58	100 kHz	1.26 MHz	T45928/102

T45928/101



T45928/102



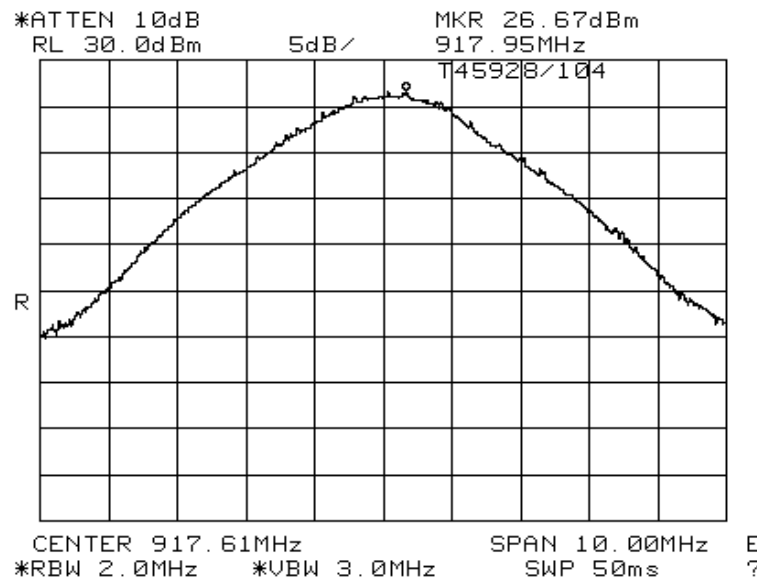
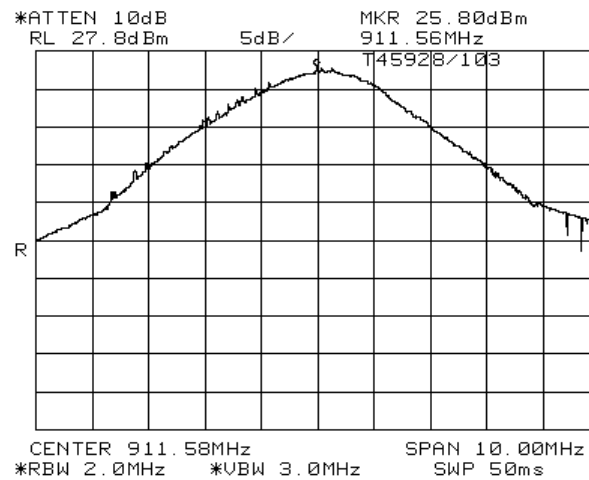


## EMC Test Data

Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Run #2: Output Power

Channel	Frequency (MHz)	Res BW	Output Power	Graph reference #
Low	911.58	2 MHz	25.8 dBm	T45928/103
Mid	917.45	2 MHz	26.67 dBm	T45928/104





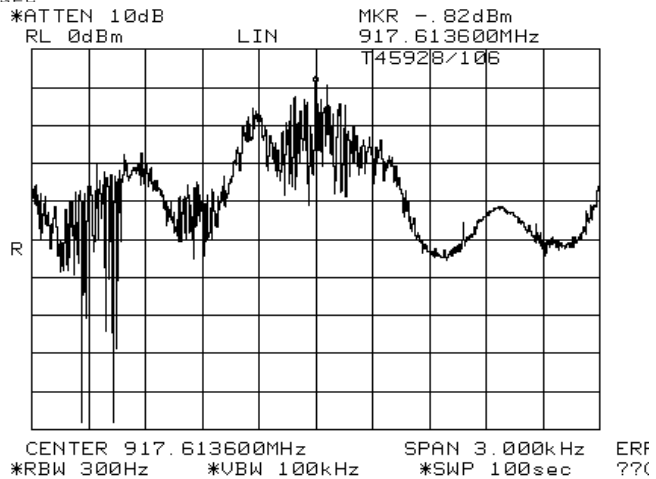
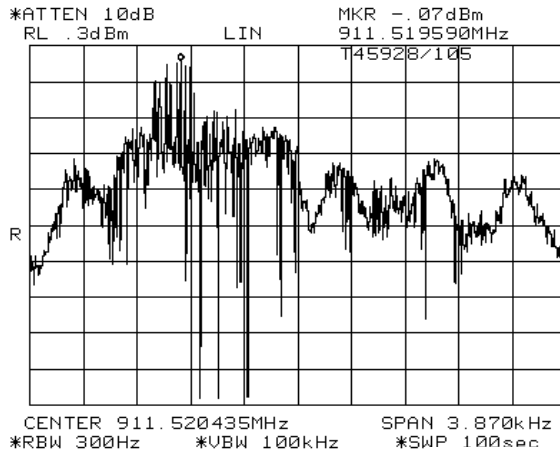
## EMC Test Data

Client: Schlumberger	Job Number: J45791
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	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Run #3: Power Spectral Density

Channel	Frequency (MHz)	Res BW	P.S.D. (averaged over 1 second in a 3kHz bandwidth)	Graph reference #
Low	911.58	Note 1	6.93	T45928/105
Mid	917.58	Note 1	6.18	T45928/106

Note 1: The power density was measured using a 300Hz Resolution bandwidth. The power was then integrated to give the total power in a 3kHz bandwidth. The following correction factor was applied to reading to provide reading for a 3 kHz bandwidth ( $10 * \log(5 \text{ spectral lines with a 3 KHz span})$ ). Measurement was taken in a linear mode.





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Spec: FCC 15 & 15.247	Class: N/A

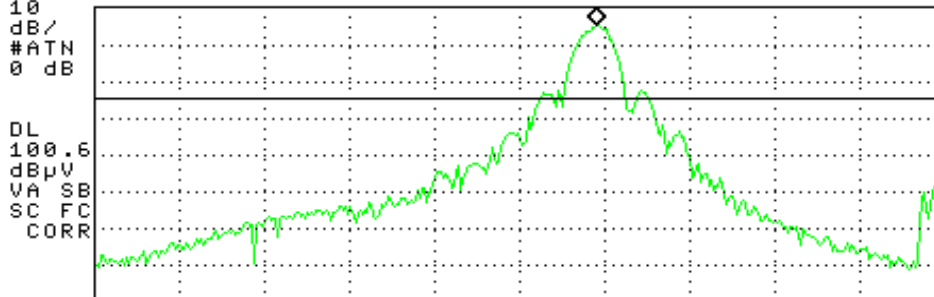
### Run #4: Bandedge Measurement

#### 917.58 MHz Fundamental

OOK BANDEDGE

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 917.70 MHz  
120.66 dBµV

LOG REF OFFST 28.3 dB  
10 REF 125.3 dBµV  
dB/  
#ATN  
0 dB



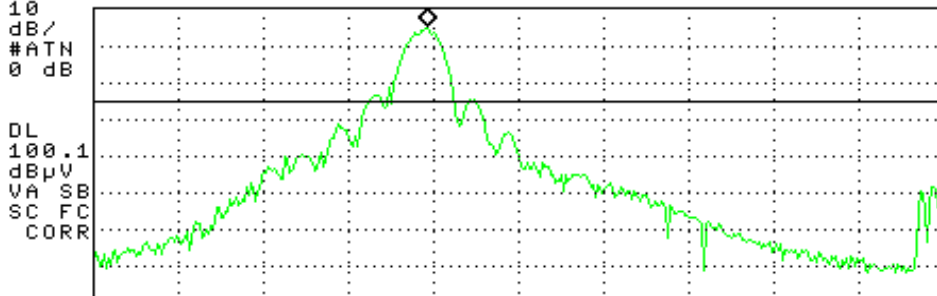
START 900.00 MHz  
IF BW 120 kHz  
AVG BW 300 kHz  
STOP 930.00 MHz  
SWP 20.0 msec

#### 911.58 MHz Fundamental

OOK BANDEDGE

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 911.78 MHz  
120.18 dBµV

LOG REF OFFST 28.3 dB  
10 REF 125.3 dBµV  
dB/  
#ATN  
0 dB



START 900.00 MHz  
IF BW 120 kHz  
AVG BW 300 kHz  
STOP 930.00 MHz  
SWP 20.0 msec

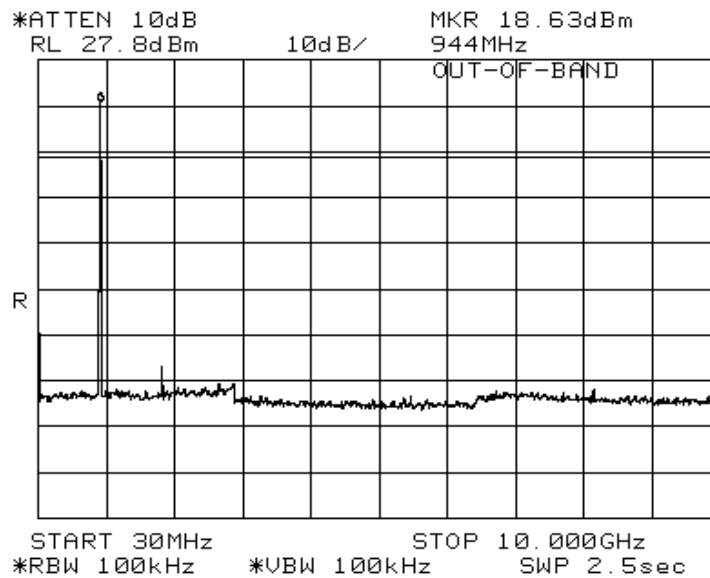


## EMC Test Data

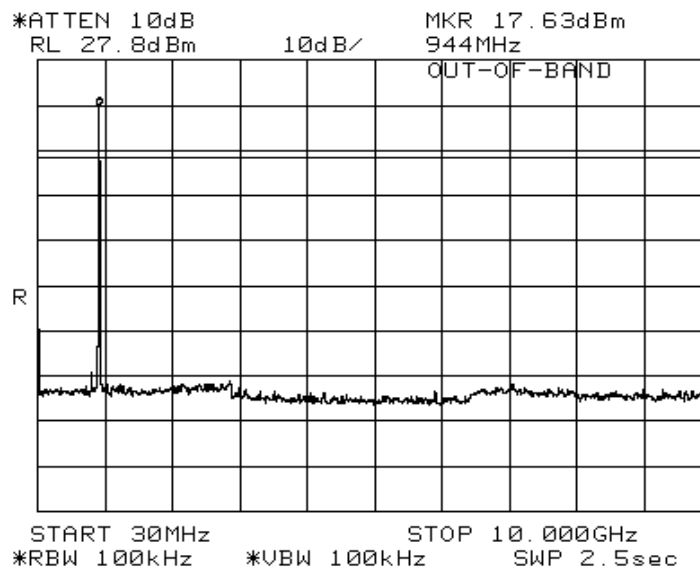
Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
Contact: Jeff Webster	Proj Eng: David Bare
Spec: FCC 15 & 15.247	Class: N/A

### Run #5: Out-Of-Band Measurements

#### 911.58 MHz Fundamental



#### 917.58 MHz Fundamental





## EMC Test Data

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Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

Measurements below are for the CCSK Modulation

### Run #1: Signal Bandwidth

Channel	Frequency (MHz)	Resolution Bandwidth	6dB Signal Bandwidth	Graph reference #
Low	911.58	100 kHz	1.09 MHz	T45928/107
Mid	917.58	100 kHz	1.13 MHz	T45928/108

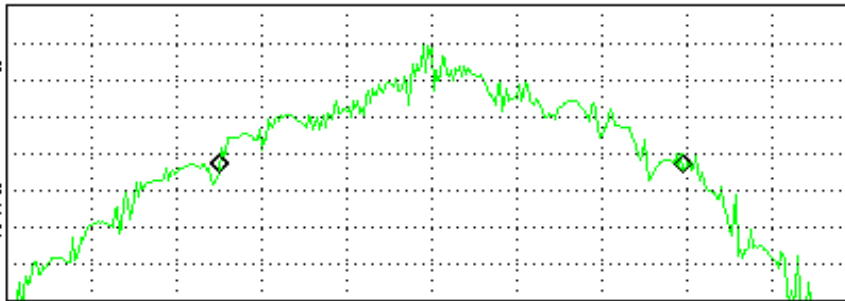
*/p* T45928/107

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKRΔ 1.090 MHz  
.09 dB

LOG REF OFFST 30.0 dB  
REF 26.4 dBm

2  
dB/  
#ATN  
20 dB

MA SB  
SC FC  
CORR



CENTER 911.580 MHz SPAN 2.000 MHz  
RT #IF BW 100 kHz #AVG BW 100 kHz SWP 20.0 msec

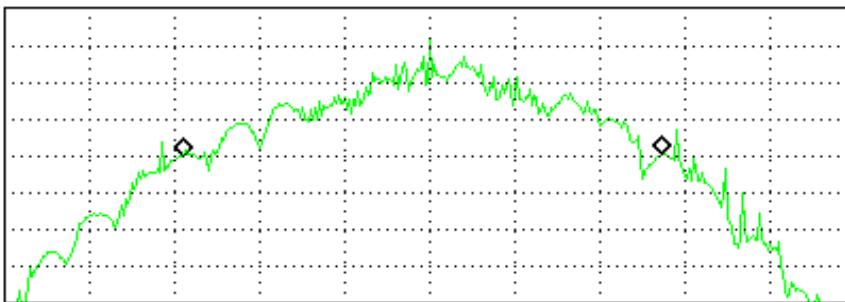
*/p* T45928/108

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKRΔ 1.125 MHz  
.05 dB

LOG REF OFFST 30.0 dB  
REF 26.0 dBm

2  
dB/  
#ATN  
20 dB

MA SB  
SC FC  
CORR



CENTER 917.585 MHz SPAN 2.000 MHz  
RT #IF BW 100 kHz #AVG BW 100 kHz SWP 20.0 msec



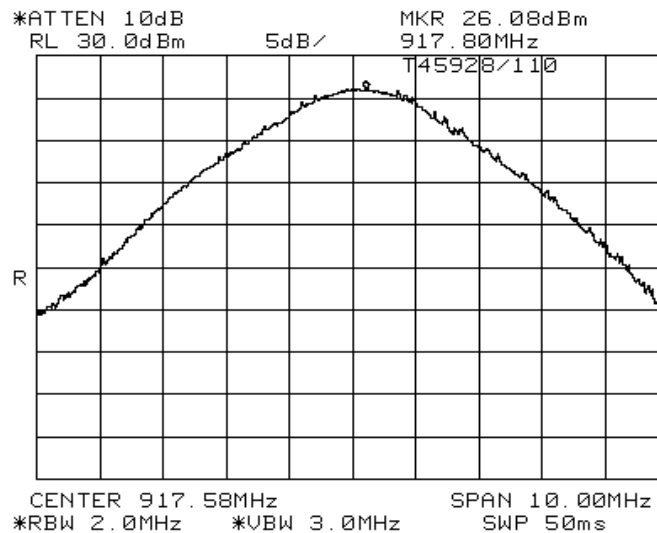
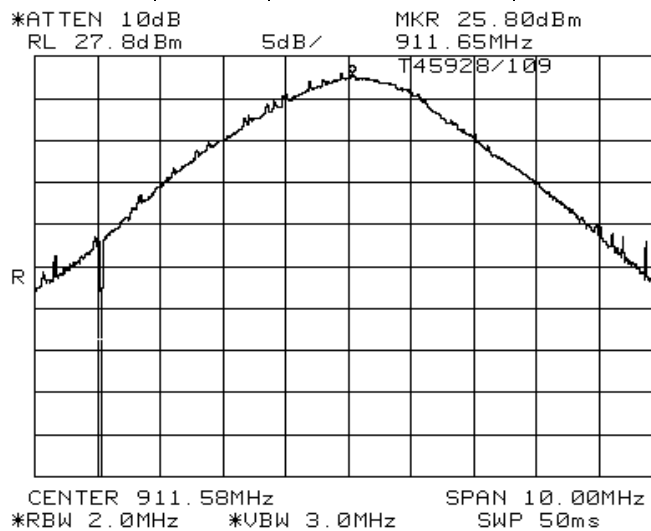


## EMC Test Data

Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Run #2: Output Power

Channel	Frequency (MHz)	Res BW	Output Power	Graph reference #
Low	911.58	2 MHz	25.8 dBm	T45928/109
Mid	917.58	2 MHz	26.08	T45928/110





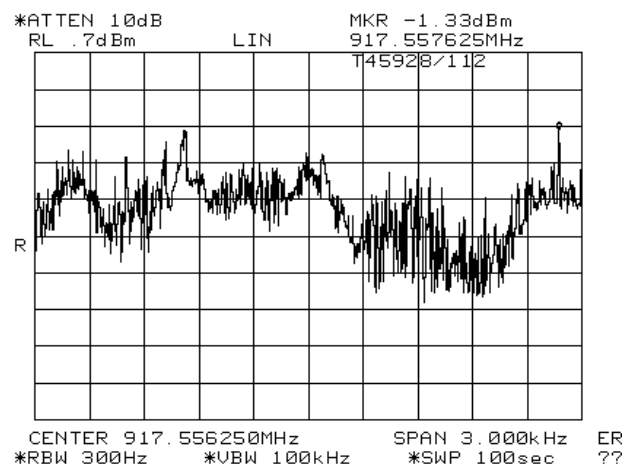
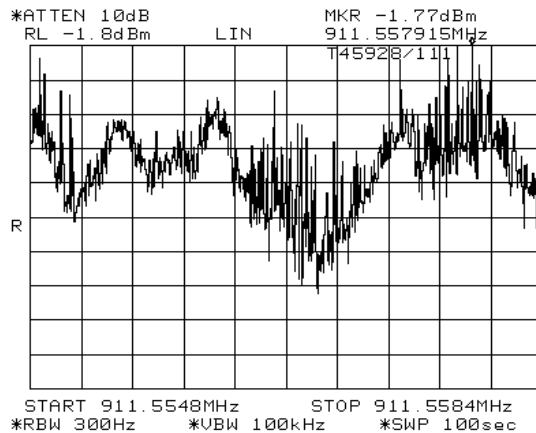
## EMC Test Data

Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: N/A

### Run #3: Power Spectral Density

Channel	Frequency (MHz)	Res BW	P.S.D. (averaged over 1 second in a 3kHz bandwidth)	Graph reference #
Low	911.58	300 Hz	5.23	T45928/111
Mid	917.58	300 Hz	5.67	T45928/112

Note 1: The power density was measured using a 300Hz Resolution bandwidth. The power was then integrated to give the total power in a 3kHz bandwidth. The following correction factor was applied to reading to provide reading for a 3 kHz bandwidth ( $10 * \log(5 \text{ spectral lines with a 3 KHz span})$ ). Measurement was taken in a linear mode.





## EMC Test Data

Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
Contact: Jeff Webster	Proj Eng: David Bare
Spec: FCC 15 & 15.247	Class: N/A

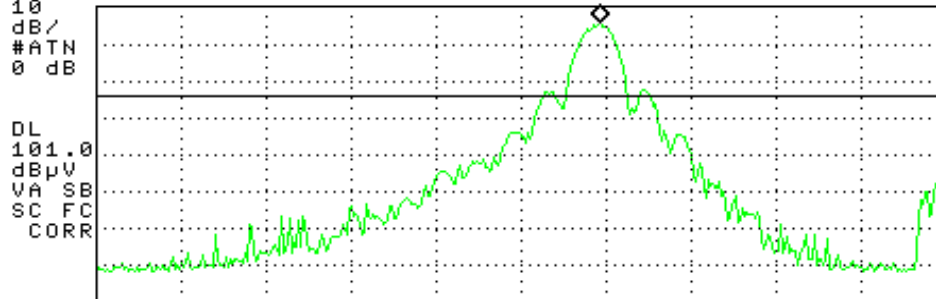
### Run #4: Bandedge Measurement

#### 917.58 MHz Fundamental

CCSK BANDEDGE

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 917.78 MHz  
121.03 dBµV

LOG REF OFFST 28.3 dB  
10 REF 125.3 dBµV  
dB/  
#ATN  
0 dB



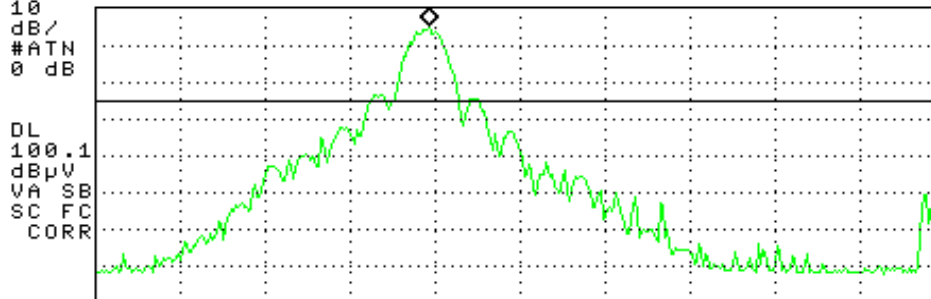
START 900.00 MHz  
IF BW 120 kHz  
AVG BW 300 kHz  
STOP 930.00 MHz  
SWP 20.0 msec

#### 911.58 MHz Fundamental

CCSK BANDEDGE

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 911.78 MHz  
120.16 dBµV

LOG REF OFFST 28.3 dB  
10 REF 125.3 dBµV  
dB/  
#ATN  
0 dB



START 900.00 MHz  
IF BW 120 kHz  
AVG BW 300 kHz  
STOP 930.00 MHz  
SWP 20.0 msec

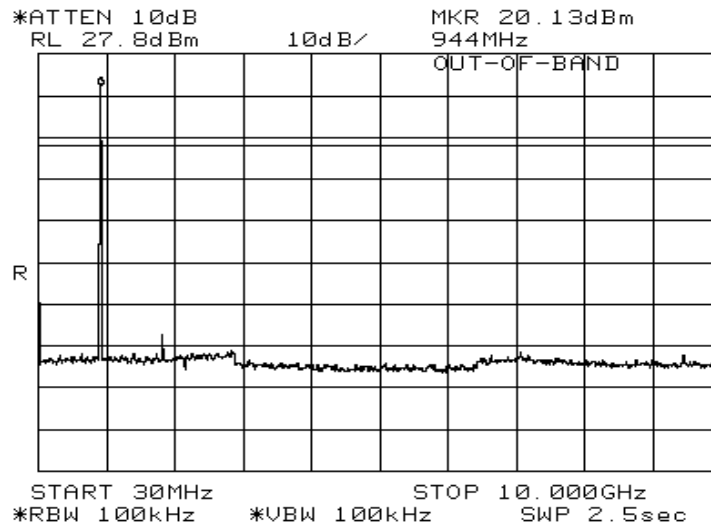


## EMC Test Data

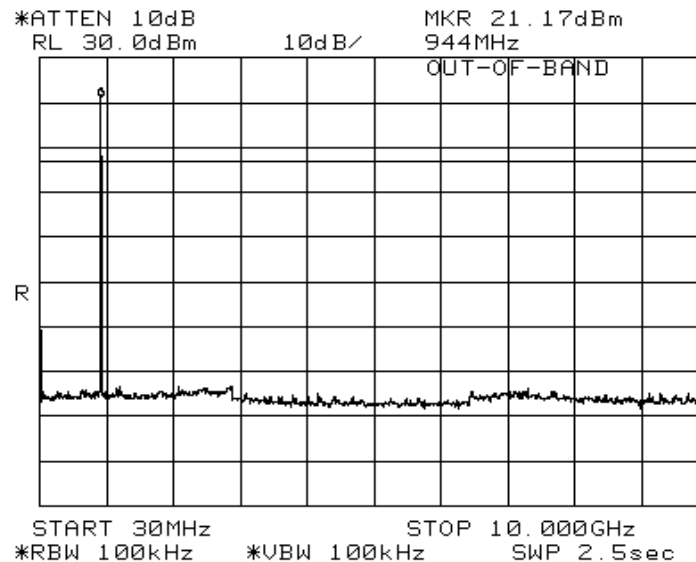
Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
Contact: Jeff Webster	Proj Eng: David Bare
Spec: FCC 15 & 15.247	Class: N/A

### Run #5: Out-Of-Band Measurements

#### 911.58 MHz Fundamental



#### 917.58 MHz Fundamental





## EMC Test Data

Client: Schlumberger	Job Number: J45791
Model: BLT III Transciever	T-Log Number: T45928
	Proj Eng: David Bare
Contact: Jeff Webster	
Spec: FCC 15 & 15.247	Class: B

### Radiated Emissions

#### Test Specifics

Objective: The objective of this test session is to perform engineering evaluation testing of the EUT with respect to the specification listed above.

Date of Test: 1/10/02	Config. Used: 1
Test Engineer: Chris Byleckie	Config Change:
Test Location: SVOATS #3	EUT Voltage: 12VDC

#### General Test Configuration

The EUT and all local support equipment were located on the turntable for radiated emissions testing.

On the OATS, the measurement antenna was located 3 meters from the EUT for the measurement range 30 - 1000 MHz and 3m from the EUT for the frequency range 1 - 10 GHz.

**Ambient Conditions:**            Temperature: 14°C  
   Rel. Humidity: 70%

#### Summary of Results

Run #	Test Performed	Limit	Result	Margin
1	RE, Preliminary Scan 30 - 1000 MHz	FCC B	Eval	Refer to individual runs
2	RE, 30 - 1000MHz - Maximized Emissions	FCC B	Pass	-9.2dB @ 737.941MHz

#### Modifications Made During Testing:

Modifications are detailed under each run description.

#### Deviations From The Standard

No deviations were made from the requirements of the standard.



## EMC Test Data

Client: Schlumberger

Job Number: J45791

Model: BLT III Transciever

T-Log Number: T45928

Proj Eng: David Bare

Contact: Jeff Webster

Spec: FCC 15 & 15.247

Class: B

### Run #1: Preliminary Radiated Emissions, 30-1000 MHz. Sorted by margin

Checked harmonics of 38.839 MHz

Frequency	Level	Pol	FCC B		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
737.941	36.8	h	46.0	-9.2	QP	0	1.1	
737.941	34.8	v	46.0	-11.2	QP	56	1.0	
194.195	30.6	v	43.5	-12.9	QP	66	1.0	
660.263	31.8	v	46.0	-14.2	QP	60	1.2	
660.263	31.6	h	46.0	-14.4	QP	0	1.3	
194.195	29.0	h	43.5	-14.5	QP	161	1.5	
815.619	30.6	h	46.0	-15.4	QP	25	1.0	
815.619	30.4	v	46.0	-15.6	QP	222	1.0	
624.424	27.3	h	46.0	-18.7	QP	238	1.1	
116.517	24.3	v	43.5	-19.2	QP	0	1.0	
155.356	21.6	v	43.5	-21.9	QP	66	1.0	

### Run #2: Maximized Readings From Run #1. Sorted by margin

Frequency	Level	Pol	FCC B		Detector	Azimuth	Height	Comments
MHz	dB $\mu$ V/m	v/h	Limit	Margin	Pk/QP/Avg	degrees	meters	
737.941	36.8	h	46.0	-9.2	QP	0	1.1	
737.941	36.5	v	46.0	-9.5	QP	56	1.0	
194.195	30.6	v	43.5	-12.9	QP	66	1.0	
660.263	32.0	v	46.0	-14.0	QP	60	1.2	
660.263	31.6	h	46.0	-14.4	QP	0	1.3	
194.195	29.0	h	43.5	-14.5	QP	161	1.5	