

## **KYTI(FM) Minor Modification**

This technical report is submitted for a minor modification to KYTI(FM) 229C at Sheridan, WY, FCC facility I.D. 12931. A declass to 229C1 and decrease in ERP to 30 kW is submitted.

### **KYTI(FM) Modification Analysis:**

A spacing study in exhibit E-1 shows the KYTI(FM) modification to channel 229C1 is fully-spaced at its current site at coordinates:

**44 37 24.4N 107 07 04.1W NAD83.**

A 70 dBu (50.0 km) reference circle and 70 F(50-50) dBu contour covering 100% of the Sheridan, WY community of license are shown in exhibit E-2. The distance to the 60 dBu contour = 65.5 km less than the maximum for a class C1.

A Shively 6814-BB-7R seven bay, full wavelength spaced, non-directional antenna will be mounted at a COR AGL of 38.0 meters, 2380.0 meters AMSL, 374.9 meters HAAT (exhibit E-3) and will operate at 30 kW ERP.

### **RF Exposure:**

The RF contribution of the current KYTI(FM) 229C facility at 75 kW ERP and all other collocated facilities is documented in the RF measurement report attached (exhibit E-4) shows compliance. No physical changes are proposed to the facility. Therefore, the RF compliance remains since the ERP is reduced from 75 kW to 30 kW.

**Conclusion:**

It is submitted the minor modification application for KYTI(FM) is in full compliance with the Commission rules and policies.



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Christopher Anderson December 12, 2022  
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# E-1 CHANNEL STUDY (Application Site and Fully Spaced Reference Point)

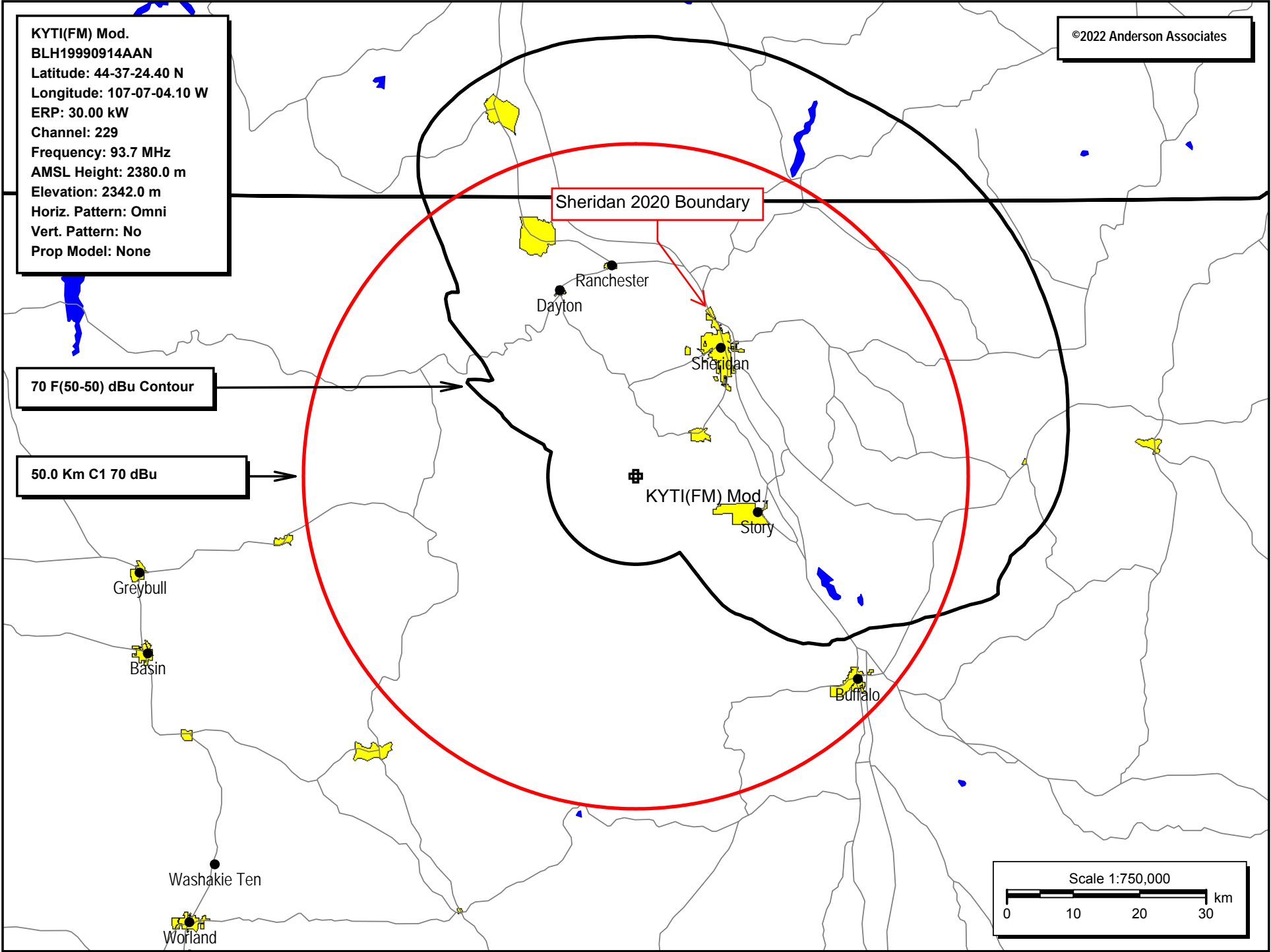
REFERENCE		DISPLAY DATES
44 37 24.40 N.	CLASS = C1	DATA 12-13-22
107 07 04.10 W.	Current Spacings to 3rd Adj.	SEARCH 12-14-22
----- Channel 229 - 93.7 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
KYTI	LIC	229C	Sheridan	WY	142.8	0.17	269.5 -269.3
ALLO_%	USE	229C	Sheridan	WY	142.6	0.17	269.5 -269.3
AU6230073	USE	228C1	Casper	WY	163.5	211.54	176.5 35.0
KWYX	LIC	228C1	Casper	WY	162.5	219.07	176.5 42.6
KTAK	LIC	230C1	Riverton	WY	201.7	227.23	176.5 50.7
ALLO	USE	230C1	Riverton	WY	201.7	227.23	176.5 50.7
KTAK	ALO	230C1	Riverton	WY	201.7	227.23	176.5 50.7
KLED	LIC-N	227C3	Antelope Valley-Cre	WY	108.1	132.61	75.5 57.1

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% = Station Fails minimum 73.215 spacings.  
All separation margins include rounding

E-2 KYTI(FM) 229C1 70 dBu Contour Plot



### E-3 KYTI(FM) 229C1 HAAT Calculation

N. Lat. = 443724.4 W. Lng. = 1070704.1

HAAT and Distance to Contour,

FCC, FM 2-10 Mi, 51 pts Method - FCC 30 Meter

Azi.	AV EL	HAAT	ERP kW	60-F(50-50)
000	1403.2	976.8	30.0000	91.05
045	1351.2	1028.8	30.0000	92.18
090	1486.6	893.4	30.0000	89.10
135	2148.9	231.1	30.0000	55.29
180	2624.1	-244.1	30.0000	23.64
225	2506.4	-126.4	30.0000	23.64
270	2429.9	-49.9	30.0000	23.64
315	2090.6	289.4	30.0000	59.59

Ave El= 2005.11 M HAAT= 374.89 M AMSL= 2380.0

**RFR Engineering Statement for  
Red Grade Communication Site  
Big Horn National Forest, Wyoming**

The instant Engineering Statement was prepared on behalf Lovcom, Inc., licensee of radio stations KZWY(FM) Sheridan, Wyoming, KYTI(FM) Sheridan, Wyoming, and KLQQ(FM) Clearmont, Wyoming. KZWY, KYTI, and KLQQ share co-located transmission facilities on a single tower owned by Lovcom at coordinates N44-37-20, W107-06-57, in Sheridan County, Wyoming.

The Lovcom tower is located at a developed communications site commonly known as the Red Grade Communications Site on land owned by the United States Forest Service. The Lovcom tower has a height of 150 feet AGL and, in addition to the stations already mentioned, supports one other primary broadcast service - KJCW-LP television. The main antenna and tower of full service television station KSGW-TV Sheridan, Wyoming, is also located adjacent to the Lovcom tower.

The Red Grade Communications Site does not qualify for the standard “worksheet” determination of RFR compliance due to the fact that there is a mix of FM and Television facilities at the site. Therefore, this Statement provides the radio frequency electromagnetic exposure measurements for the purpose of site compliance and was conducted in accordance of the FCC Guidelines (OET Bulletin No. 65 edition 97-01 August 1997) to determine acceptable levels of Radiofrequency Electromagnetic Exposure.

The attached measurements were taken by the undersigned at noon on October 28, 2006. A Narda SRM-3000 narrow band radiofrequency measurement test set with a 300 KHz–3 GHz three axis probe designed for E-field measurements was used in gathering the data. The attached map shows the RFR measurements taken at various locations from the Lovcom tower base to 100 feet from the tower in all directions. All measurements on the attached map indicate the percentage of the FCC Occupational/Controlled Standard (OET Bulletin No. 65 edition 97-01 August 1997) where 100% equal 1000 microvolts per square centimeter.

The radiofrequency environment at the Red Grade Communications site can be considered an occupational/controlled environment. This is a remote mountain top site at 2340 meters above mean sea level. The area is off limits to the general public and is protected by a locked gate on the access road 0.5 miles from the site. The gate also includes an RFR warning sign indicating that a communications site is located beyond the gate and hazardous RFR may be encountered at the site and should not be accessed by the public.

This access road affords the only means of vehicular access to the site due to hazardous terrain. The locked gate prevents inadvertent access by the general public. Additionally, the access road is not passable during 6 months of the year due to deep snow. A snow vehicle or helicopter is required to access the site during that time of the year. In the

event that a member of the general public does gain access to the site without using the access road, appropriate RFR warning signs are posted in accordance to FCC rules and regulations at regular intervals around the tower encompassing a radius of approximately 40 feet from the tower base.

In an examination of the measurements recorded, one can observe that at no location does the RFR field exceed the limits for Maximum Permissible Exposure (MPE) for persons familiar with working in RFR environments (ie: a Controlled Site). And, with the exception of areas within 30 feet of the Lovcom tower (areas well inside the warning sign perimeter), the RFR field does not exceed the MPE for the general public (ie: an Uncontrolled Site).

I, Kevin Terry, conducted the radiofrequency field survey. A Narda SRM-3000 narrow band radiofrequency measurement test set with a 300 KHz–3 GHz three axis probe designed for E-field measurements was employed. Manufacturer calibration is in current for the device and it is in good working order. The RFR measurements recorded on the 28th day of October are true and accurate to the best of my knowledge.

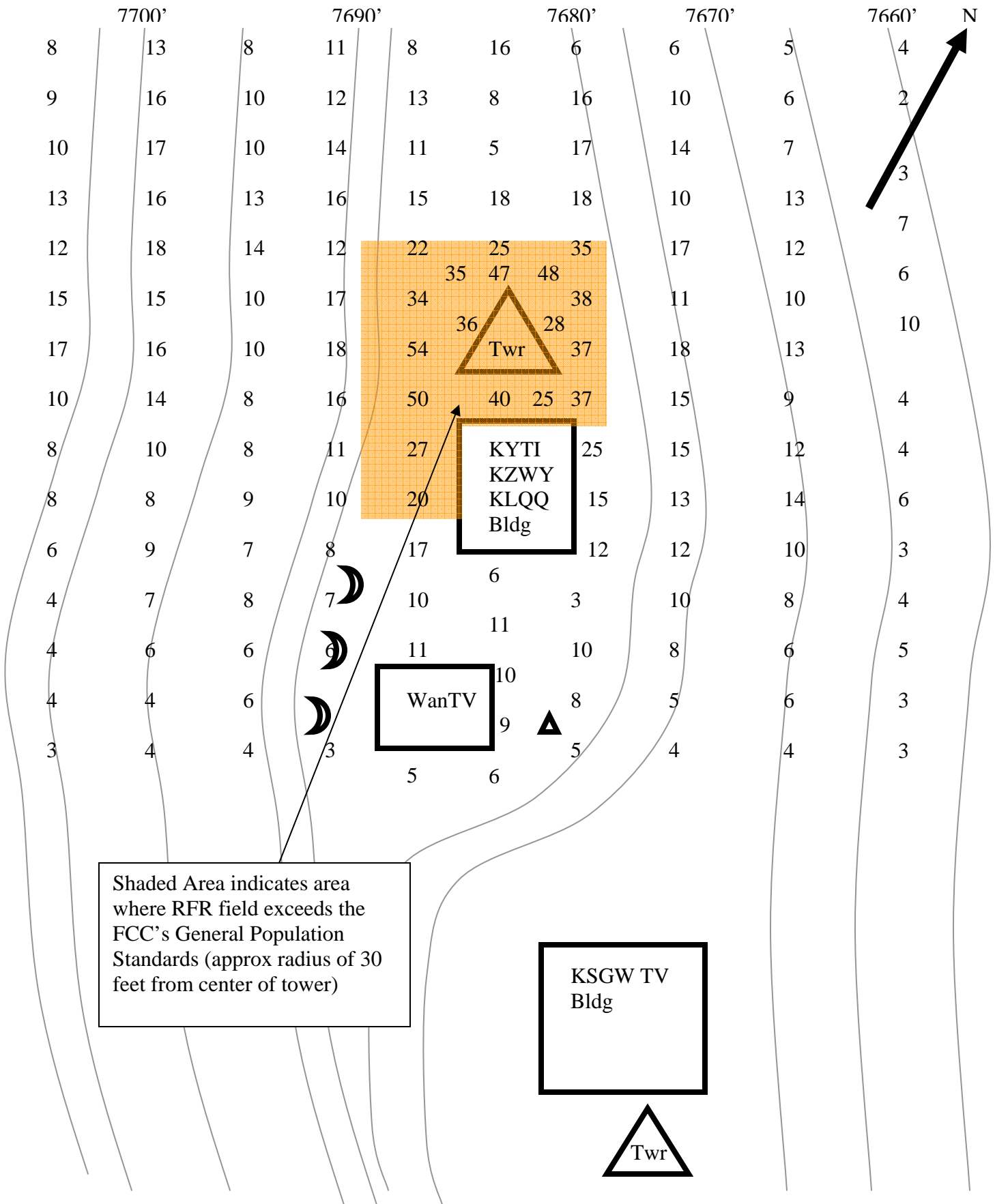
Dated this 30th day of October, 2006.

A handwritten signature in black ink, appearing to read 'Kevin Terry', is written above a horizontal line.

Kevin Terry  
3702 Sunridge Dr.  
Park City, UT 84098

Consulting Engineer to:  
Lovcom, Inc.

**KZWY, KYTI, KLQQ Radiofrequency Radiation Measurements**  
**(as a Percentage of FCC Controlled Standard)**  
**October 28, 2006**





# Calibration Certificate

**Narda Safety Test Solutions** hereby certifies that the referenced equipment has been calibrated by qualified personnel to Narda's approved procedures. The calibration was carried out within a certified quality management system conforming to ISO 9001:2000.

The metrological confirmation system for test equipment complies with ISO 10012-1.

Object

**Probe SRM, E-Field, Three-Axis  
75 MHz to 3 GHz**

Type

**BN 3501/01**

Serial Number

**D-0014**

Manufacturer

**Narda Safety Test Solutions**

Customer

Date of Calibration

**16-Nov-2004**

Results of Calibration

**Test results within specifications**

Confirmation interval recommended

**24 Months**


Ambient conditions


**23°C +/-3°C  
(20...60)% rel. humidity**

Test procedure

**3000-8702-00A**

Pfullingen, 16-Nov-2004

  
\_\_\_\_\_  
Person in charge  
Moll

  
\_\_\_\_\_  
Quality management representative  
W. Kumbier



Certified by DQS against  
DIN EN ISO 9001  
(Reg.-No. 99379)

This certificate may only be published in full, unless permission for the publication of an approved extract has been obtained in writing from the Managing Director.

# Calibration Certificate

Narda Safety Test Solutions hereby certifies that the referenced equipment has been calibrated by qualified personnel to Narda's approved procedures. The calibration was carried out within a certified quality management system conforming to DIN EN ISO 9001:2000.

The metrological confirmation system for test equipment complies with ISO 10012-1.

Object

**Selective Radiation Meter  
Basic Unit  
100 kHz to 3 GHz**

Type

**SRM-3000, BN 3001/01**

Serial Number

**D-0016**

Manufacturer

**Narda Safety Test Solutions**

Customer

Date of Calibration

**03-Nov-2004**

Result of Calibration

**Measurement results within specifications**

Confirmation interval recommended

**24 months**

Ambient conditions

**23 °C ± 3 °C  
(20 ... 60) % rel. humidity**

Test procedure

**3000-8701-00A**

Pfullingen, 03-Nov-2004



Person in charge

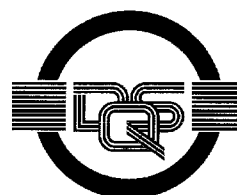
P. Geyer



Quality management representative

W. Kumbier

MANAGEMENT  
SYSTEM



Certified by DQS against  
DIN EN ISO 9001  
(Reg.-No. 099379)

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# E-5 TOWAIR Determination Results

\*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

Latitude	44-37-24.4 north
Longitude	107-07-04.1 west

Measurements (Meters)

Overall Structure Height (AGL)	45.7
Support Structure Height (AGL)	0
Site Elevation (AMSL)	2342

Structure Type

LTOWER - Lattice Tower

CLOSE WINDOW