APPLICATION FOR EQUIPMENT CERTIFICATION

FCC FORM 731

AND

SUPPORTING DOCUMENTATION

SUBMITTED TO:

FEDERAL COMMUNICATIONS COMMISSION
EQUIPMENT APPROVAL SERVICES
POST OFFICE BOX 358318
PITTSBURGH, PA 15251-5315

FOR:

ROHDE & SCHWARZ

NV8300 SERIES TRANSMITTER FAMILY

2 June 2008

Application Contents:

Exhibit Description		*Confidentiality Requested*
Cover Letter		No
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Request for Confidentiality		No
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Dielectric Mask Filter Response Measurements		No
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Description of MediaFLO Modulation Characteristics		Yes
NV8306V Transmitter Block Diagrams		Yes
NV8306 System Manual	(6-parts)	Yes
SV800 MediaFLO Exciter Instrument Manual	(7-parts)	Yes
NetCCU 800 Instrument Manual	(3-parts)	Yes
VH8300A1 Power Amplifier Instrument Manual	(5-parts)	Yes
NV8306 Internal Photographs		Yes
SV800 Exciter Printed Circuit Board Photographs		Yes
VH8300A1 Power Amplifier Internal Photographs		Yes

NV8300 series Transmitter FCC Certification Application

Summary of Application for Certification of Equipment

As stated in the cover letter Rohde & Schwarz, Inc. is hereby applying for Equipment Certification for select models of the NV8300 family of UHF solid state transmitters. This is to permit licensed operation pursuant to 47CFR§27.51. To that end we are electronically submitting an Application for Equipment Authorization, FCC form 731 as specified by 47CFR§27.1033, Application for Certification. Along with that form we are including as Exhibits the requisite documentation, including reports of various measurements conducted in accordance with 47CFR§2, that demonstrate compliance with the pertinent sections of 47CFR§27 and 47CFR§2.

47CFR§2.1033(c) APPLICATION FOR CERTIFICATION INFORMATION

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Mühldorfstraße 15
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München
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FCC Identifier:

Please refer to Exhibit *NV8300 FCC ID Label and Placement* for examples of the FCC ID labels and the manufacturer's information labels for the NV8300 family of transmitters.

NV8306E/V System Manual

Exhibits *NV8306E/V System Manual, SV800 Exciter Instrument Manual and NetCCU 800 Instrument Manual* contains complete, detailed instructions to guide the end user from receiving the unit up to the point of turn-on, including instructions on making all necessary adjustment and calibration procedures to that end. Virtually all of the information presented is applicable to all transmitters in the NV8300 family.

Type or Types of Emission:

6M00W7W for this application

Please refer to Exhibit *Qualcomm MediaFLO Description of Modulation Characteristics* for an overview of the modulation methodology employed.

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Frequency Range:

470-mHz to 860-mHz

Please refer to *NV8300 Transmitter Family General Specifications*, for a complete listing of specifications for all models in the NV8300 transmitter family covered by this application.

Range of Operating Power Values or Specific Operating Power Levels:

The various transmitters covered under this application and their rated power output levels are shown in Exhibit *NV8300 Transmitter Family General Specifications*. The output power level of any transmitter in the family can be reduced to any reasonable level (100% to approximately 20%) that may be required during installation. Varying the output power during operation is not considered to be a routine occurrence. Please see Exhibit *NV8306E/N System Manual* and also Exhibit *NetCCU 800 Instrument Manual* for instructions on making the adjustment.

Maximum Power Rating:

Please refer to Exhibit *NV8300 Family General Specifications* for the power rating for each transmitter model covered under this application.

Final Stage DC Voltage and Currents:

VH8300A1 UHF Power Amplifier Module

LDMOS transistor, 6 devices per amplifier module.
(each LDMOS device is a matched pair of transistors on a common substrate).

Final stage DC operating parameters are:
E = 32-volts, DC,
I ≈ 4 amperes/transistor, 8 amperes/pair, 48-amperes/amplifier module.
Total power output is ≈ 300-watts with OFDM/MediaFLO modulation waveform.

Tune-Up Procedure:

As the transmitters in the NV8300 family are broadband in design there is no tune-up procedure, per se. The Exhibit *NV8300 Parts List and Tune Up*

Procedure gives a brief outline of the commissioning process needed to prepare a transmitter for operation. Commissioning and adjustments are further described in intimate detail in the Exhibit *NV8306E/V System Manual.*

Schematic Diagrams, Circuitry Descriptions for Frequency Stability, Suppression of Spurious Emissions, Modulation Limiting and Power Limiting:.

The operating circuitry of the transmitter is described briefly in the Exhibit *NV8300 Operational Description*. Much greater detail can be found throughout Exhibits: *NV8306E/V Transmitter System Manual, SV800 Exciter Instrument Manual, NetCCU 800 Instrument Manual* and *VH8300A1 UHF Power Amplifier Instrument Manual.* Detailed schematic diagrams, parts lists and circuit card layouts can be found in those same Exhibits. Block diagrams of the exciter and transmitter are available in the Exhibit *NV8306V Block Diagrams*.

In addition to the standard harmonic filter, spurious emissions are limited by both the clean exciter design with its equalization/precorrector and by a sharply tuned channel "mask" filter at the output terminal of each transmitter. That "mask" filter is supplied by a third party. The overall requirements for that filter are specified in the Exhibit *Qualcomm Source Control Document for Channel Mask Filter*. The measured response for that filter can be found in the Exhibit *Dielectric Mask Filter Response Measurements*. Three additional filters are specified as electrically interchangeable with that unit and their respective measured response curve data can be found in the Exhibits: *Alternate Dielectric DR Mask Filter Response Measurements, Alternate ERI Mask Filter Response Measurements* and Alternate *Myat Mask Filter Response Measurements.*

Equipment Identification Plate Photo:

Refer to Exhibit *NV8300 FCC ID Label and Placement*, for a photograph of a typical Rohde & Schwarz transmitter's manufacturer's ID label as well as the same information for the FCC ID label specific to this transmitter model line.

Photographs of Transmitter Equipment:

Photographs of the exterior of the transmitter may be found in the Exhibit *NV8306V Exterior Photographs*.

Photographs of the interior of the transmitter may be seen in the Exhibit *NV8306 Interior Photographs*.

Photographs of the circuit assemblies of the SV800 exciter can be found in the Exhibit *SV 800 Exciter Printed Circuit Board Photographs*.

Photographs of the exterior and interior of the VH8300V1 UHF Power

Amplifier can be located in the Exhibit *VH8300A1 Power Amplifier Internal Photographs*.

Additional photographs may be viewed throughout the Exhibits of the manuals for the transmitter and its sub-systems.

Details of Digital Modulation Technique:

Please refer to the Exhibit *Description of MediaFLO Modulation Characteristics* for a description of the modulation methodology.

Data Required by §§2.1046 Through §§2.1057 Inclusive, Measured in Accordance with §2.1041:

Exhibit *Sx 800 Exciter Temperature Stability Test Report* demonstrates compliance with §2.1046 and §27.54 for the temperature stability requirement.

The Exhibit *NV8306V Nokia Siemens Laboratory Test Report B0AK0001* shows compliance with the requirement of §2.1046 for RF power output and also attests to compliance with all other required criteria from Part 2 as well as §27.53, Emissions Limits.